Center City Public Charter Schools
Character, Excellence, Service

8th Grade Math
Academic Readiness for 2020

Dear Center City Families,

In this challenging time, Center City staff is doing our best to ensure that your child is academically prepared to return to school in the Fall of 2020 with minimal learning loss. We have created this packet of academic materials that expand on foundational content that was covered this school year. Your child should complete this work to be ready for school once the academic year starts again in the fall.

This packet includes approximately four weeks of work. **Between May 4th and 22nd, teachers will schedule virtual check-ins with students centered around the content of this packet. Please return the completed packet to your home campus no later than June 5, 2020.**

Inside this packet, you will find:

- A table of contents that shows page numbers for each included activity
- A calendar that shows, day by day, which activities students should complete
- A copy of every activity and assignment that students will need to complete

Your child's teachers will be reaching out via text, email, phone, or Class Dojo to let you know when they are available and how they will monitor student progress on academic work through May 22nd.

There are a number of ways you can support the academic growth of your child during this time and throughout the summer:

- If possible, provide them with a quiet, comfortable place in which to complete their work.
- Please encourage them to read a book or magazine for pleasure. You can find books and resources online at www.dclibrary.org.
- Encourage children to keep a diary or journal for recording their thoughts, observations, or drawings.
- Get outside for an hour or two as weather permits.
- Reach out to the teacher if your child has any questions about the work in this packet.

We thank you for your patience and flexibility during these unprecedented times. If you have any questions or concerns, please do not hesitate to reach out to your campus team. In the meantime, we encourage everyone to stay safe and healthy by following the social distancing protocols that Mayor Bowser has put into place.

Sincerely,

The Center City Team

Center City Public Charter Schools
Character, Excellence, Service

8th Grade Math
Preparación Académica para 2020

Queridas Familias de Center City,

Durante este tiempo difícil, el personal de Center City está haciendo nuestro mejor para asegurar que su hijo está académicamente preparado para regresar a la escuela en el otoño de 2020 con una pérdida mínima de aprendizaje. Hemos creado este paquete de materiales académicos que amplían en el contenido fundacional que estaba cubierto este año escolar. Su hijo debe cumplir este trabajo para estar listo una vez el año académico empiece otra vez en el otoño.

Este paquete incluye aproximadamente cuatro semanas de trabajo. **Entre el 4 y el 22 de mayo, los maestros van a programar conversaciones virtuales con los estudiantes para hablar sobre el contenido de este paquete. Por favor entreguen el paquete cumplido a su campus no más tarde que el 5 de junio, 2020**.

Adentro este paquete, van a encontrar:

- Una tabla de contenido que muestra el número de página para cada actividad incluida
- Un calendario que muestra, día por día, cuáles actividades los estudiantes deben cumplir
- Una copia de cada actividad y trabajo que los estudiantes necesitan cumplir

Los maestros de su hijo van a estar en contacto por texto, correo electronico, telefono, o Class Dojo para notificarles cuando están disponibles y cómo van a monitorizar el progreso de su estudiante en el trabajo académico hasta el 22 de mayo.

Hay una variedad de maneras que usted puede apoyar el crecimiento académico de su hijo durante este tiempo y durante el verano:

- Si posible, proporcione su estudiante un lugar tranquilo y cómodo donde puede cumplir su trabajo.
- Por favor anímalo a leer un libro o revista para diversión. Puede encontrar libros y recursos en línea a www.dclibrary.org.
- Anime los niños a escribir un diario con sus pensamientos, observaciones, o dibujos.
- Salgan afuera por una hora o dos si el tiempo lo permite
- Hable con el maestro si su hijo tiene alguna pregunta sobre el trabajo en este paquete.

Les agradecemos su paciencia y flexibilidad durante esta época sin precedentes. Si tiene preguntas o preocupaciones, por favor no duden en ponerse en contacto con el equipo de su campus. Mientras tanto, animamos a todos a mantenerse seguros y saludables por seguir los protocolos de distanciamiento social que la alcaldesa Bowser ha implementado.

Sinceramente,

El Equipo de Center City

Center City Public Charter Schools
Character, Excellence, Service

ትምህርታዊ ዝግጁነት ለ 2020 **8th Grade Math**

የተከበራችሁ የሴንተር ሲቲ ወላጆች

በዚህ ፈታኝ መቅት የሴንተር ሲቲ ሰራተኞች ልጅዎ በ 2020 መገባደጃ ላይ ወደ ት / ቤት ሲመለስ በትምህርቱ ዝግጁ መሆኑን ለማረጋገጥ የተቻለንን ሁሉ እያደረጉ ነው ። በዚህ የትምህርት ዓመት የተሸፈኑ መሠረታዊ ይዘቶች ላይ የሚያተኩር ይህንን የትምህርት ቁሳቁስ የያዘ ፓኬጅ ፈጥረናል ። የትምህርት ዓመቱ በበልግ መቅት/ፎል እንደገና ከተጀመረ ልጅዎ ለትምህርት ቤት ዝግጁ ለመሆን ይህንን ስራ መሙላት/መስራት አለበት።

ይህ ፓኬት በግምት የአራት ሳምንታት ሥራን ያካትታል ። ከግንቦት/ሚይ 4 እስከ 22 ኛው ባለው ጊዜ መምህራን በዚህ ፓኬጅ ይዘት ዙሪያ እተኩረው ከተማሪዎች ጋር በቨርቹዋል/በኢንተርንት ለሚደረግ ትምህርት መርሃ ግብር ያዘጋጃሉ ። እባክዎን የተጠናቀቀውን እሽግ ከጁን 5 2020 ዓ.ም. በፊት ወደ ትምህርት ጣቢያ/ ካምፓስ ይመልሱ ።

በዚህ እሽግ ውስጥ የሚከተሉትን ያገኛሉ፡

- ለእያንዳንዱ ስራዎች የገጽ ቁጥሮችን የሚያሳይ የይዘት ሠንጠረዥ
- ተማሪዎች በየቀኑ ማጠናቀቅ የሚጠበቅባቸውን ስራዎች የሚያሳይ የቀን መቁጠሪያ
- ተማሪዎች ማጠናቀቅ የሚያስፈልጓቸውን የእያንዳንዱ እንቅስቃሴ ቅጅ/ኮፒ

የልጅዎ አስተማሪዎች እስከ ሜይ 22 ባለው ግዚ መቼ እንደሚገኙ እና እንዴት በአካዳሚክ ሥራ ላይ የተማሪዎን እድገት እንዴት እንደሚቆጣጠሩ ለማሳወቅ በጽሑፍ ፣ በኢሜል ፣ በስልክ ወይም በክፍል ዶጆ/ በኩል ለማድረስ ጥረት ያደርጋሉ ።

በአሁኑ ሰአት እንዲሁም እስከ ሰመር ባለው ጊዜ የልጅዎን የትምህርት እድገት ለመደገፍ በርካታ መንገዶች አሉ፡

- የሚቻል ከሆነ ሥራቸውን የሚያጠናቅቁበት ጸጥተኛና ምቹ የሆነ ቦታ አዘጋጁላቸው።
- እባክዎን ለመደሰት መፅሃፍ ወይም መጽሔትን እንዲያነቡ ያበረታቷቸው ። መጽሐፍትን እና የተለያዩ ጽሁፎችን በ www.dclibrary.org ማግኘት ይችላሉ ።
- ሀሳቦቻቸውን ፡ ምልከታዎቻቸውን ፣ ወይም ስዕሎቻቸውን ለመገልበጥ ልጆች ማስታወሻ ደብተር ወይም ማስታወሻ እንዲይዙ ያበረታቷቸው።
- የአየር ሁኔታ እንደሚፈቅድ ለአንድ ወይም ለሁለት ሰዓት ወደ ደጅ የዘዋቸው ይውጡ ።
- ልጅዎ በዚህ ፓኬት ውስጥ ስላለው ሥራ ጥያቄ ካለዎት ከአስተማሪው ጋር ይገናኙ ።

በእነዚህ ባልተለመዱ ጊዜያት ስለትዕግስትዎ እና እናመሰግናለን ። ማናቸውም ጥያቄዎች ወይም ስጋቶች ካሉዎት እባክዎን ወደ የካምፓስ ቡድንዎን ለመገናኘት አያመንቱ ። ይህ በእንዲህ እንዳለ ከንቲባ ባውዘር ያስቀመጠቻቸውን ማህበራዊ ልዩነትን /ተራርቆ የመቆየት ፕሮቶኮሎችን በመከተል ሁሉም ሰው ደህንነቱ የተጠበቀ እና ጤናማ ሆኖ እንዲቆይ እናበረታታለን ።

ከሠላምታ ጋር ፡

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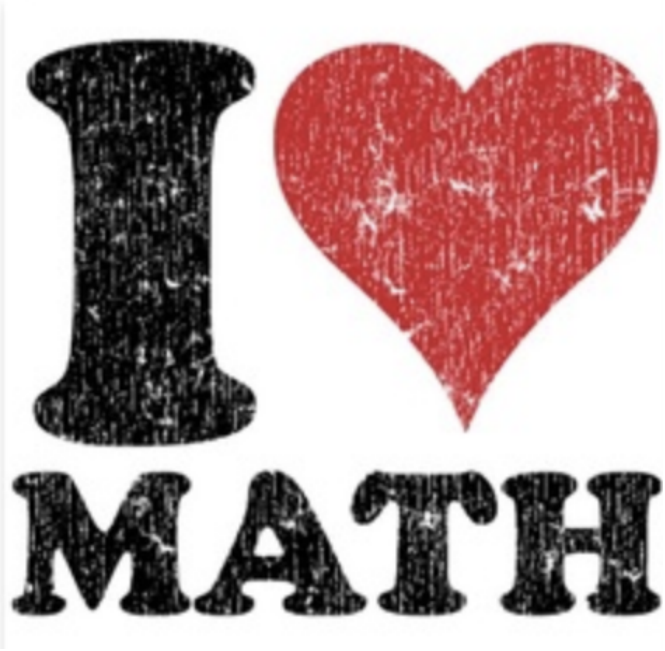

8th Grade Math Packet

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Table of Contents

Tabla de Contenido

Daily Learning Calendar

Week 1				
Day 1 Pages: 17-20 ***Goal:*** *I can evaluate and simplify expressions.*	**Day 2** Pages: 21-23 ***Goal:****I can apply properties of operations to add and subtract linear expressions.*	**Day 3** Pages: 24-26 ***Goal:*** *I can apply properties of operations to expand and factor linear expressions.*	**Day 4** Pages: 27-29 ***Goal:*** *I can create and solve equations to solve a real-world problem.*	**Day 5** Pages: 30-33 ***Goal:*** *I can create and describe the solution set of inequalities in a real-world context*
Week 2				
Day 1 Pages: 34-36 ***Goal:*** *I can determine how many solutions there are to a linear equation.*	**Day 2** Pages: 37-38 ***Goal:*** *I can solve multi-step linear equations.*	**Day 3** Pages: 39-40 ***Goal:*** *I can solve multi-step linear equations using the distributive property.*	**Day 4** Pages: 41-44 ***Goal:*** *I can use interior and exterior angle sums of triangles to solve problems.*	**Day 5** Pages: 45-48 ***Goal:*** *I can use facts about angles that are formed when parallel lines are cut by a transversal to solve problems.*
Week 3				
Day 1 Pages: 49-51 ***Goal:*** *I can calculate unit rates in real-world contexts.*	**Day 2** Pages: 52-53 ***Goal:*** *I can determine if two quantities are in a proportional relationship using tables and graphs.*	**Day 3** Pages: 54-56 ***Goal:*** *I can identify the constant of proportionality in tables, graphs, and equations.*	**Day 4** Pages: 57-59 ***Goal:*** *I can write an equation to describe a proportional relationship in a real-world context.*	**Day 5** Pages: 60-62 ***Goal:****. I can describe what each point means on the graph of a proportional relationship.*
Week 4				
Memorial Day **No School**	**Day 1** Pages: 63-66 ***Goal:*** *I can graph a proportional relationship and interpret the slope.*	**Day 2** Pages: 67-69 ***Goal:****I can compare two different proportional relationships in real-world contexts.*	**Day 3** Pages: 70- 71 ***Goal:*** *I can compare two proportional relationships in real-world contexts.*	**Day 4** Pages: 72-75 ***Goal:*** *I can use what I've learned during distance learning and the year to reflect on my math journey as a scholar.*

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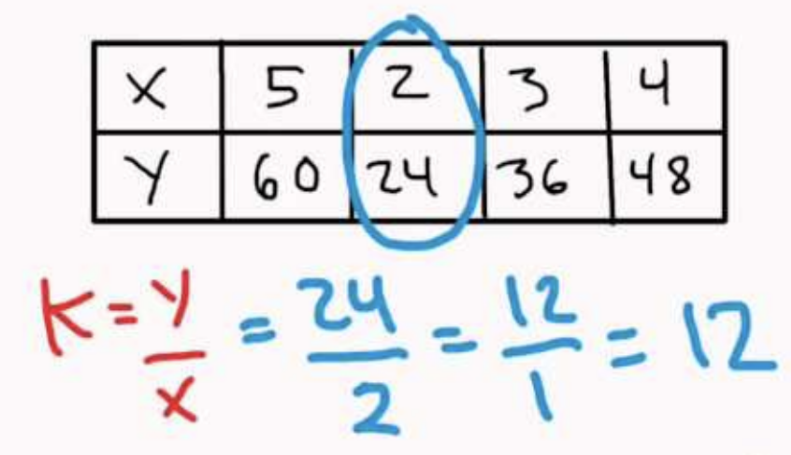
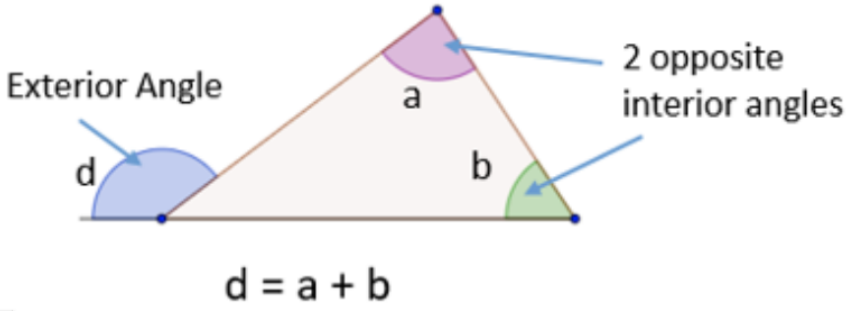
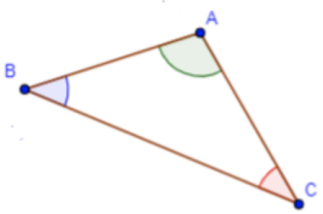
VOCABULARY LIST

Constant of Proportionality	A ratio between two directly proportional quantities. Let x and y be two proportional quantities. Let k be a constant. $y = kx$ $\frac{y}{x} = k$ 
Directly Proportional	Two quantities are **directly proportional** when they increase and decrease at the same rate.
Expand	"Expanding" means **removing the** ( ) by using properties Example: Expand 3 × (5+2) Answer: $3 \times (5 + 2) = 3 \times 5 + 3 \times 2$ It is now expanded. We can also complete the calculation: $3 \times (5+2) = \mathbf{3 \times 5} + \mathbf{3 \times 2}$ $= 15 + 6$ $= 21$

VOCABULARY LIST

Exterior Angle Theorem	An **exterior angle of a triangle** is formed by any side of a triangle and the extension of its adjacent side. An exterior angle of a triangle is equal to the sum of the two opposite interior angles.  $d = a + b$
***(to)* Factor (verb)**	To decompose a number into factors using properties
Sum of Interior Triangles	 $\angle A + \angle B + \angle C = 180°$ The sum of three interior angles in a triangle are 180 degrees.
Review Words from April Packet *(See vocabulary list for definitions)*	scientific notation, rational number, integer Coefficient, expression, equation, linear equation, equivalent Transversal, parallel lines

NOTES & ANCHOR CHARTS

Edmentum Student Work Template: Each time you work on Edmentum, take notes and show your thinking on a piece of paper that looks like the below.

Date: **Topic/lesson name:**

Notes from lesson	
Show Your Work	

8.EE.B-C Writing and Solving Linear Equations Notes

Information and Formula Sheet for Writing and Solving Systems of Equations

How Linear Equations Can Be Written:

Slope-Intercept Form

$y = mx + b$

- m: Slope
- b: y-intercept OR Constant

Standard Form

$ax + by = c$

Ways to Find Slope (m):

With a Set of Coordinates (x_1, y_1) and (x_2, y_2)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

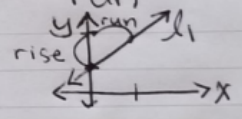
In a Table

$$m = \frac{y}{x}$$

x	y

On a Graph

$$m = \frac{\text{rise}}{\text{run}}$$



A System of Linear Equations in 2 Variables

- a set of two or more linear equations, that are graphed on the same coordinate plane

$$\begin{cases} y = mx + b \\ ax + by = c \end{cases}$$

- There are 3 Nature (Types) of Solutions

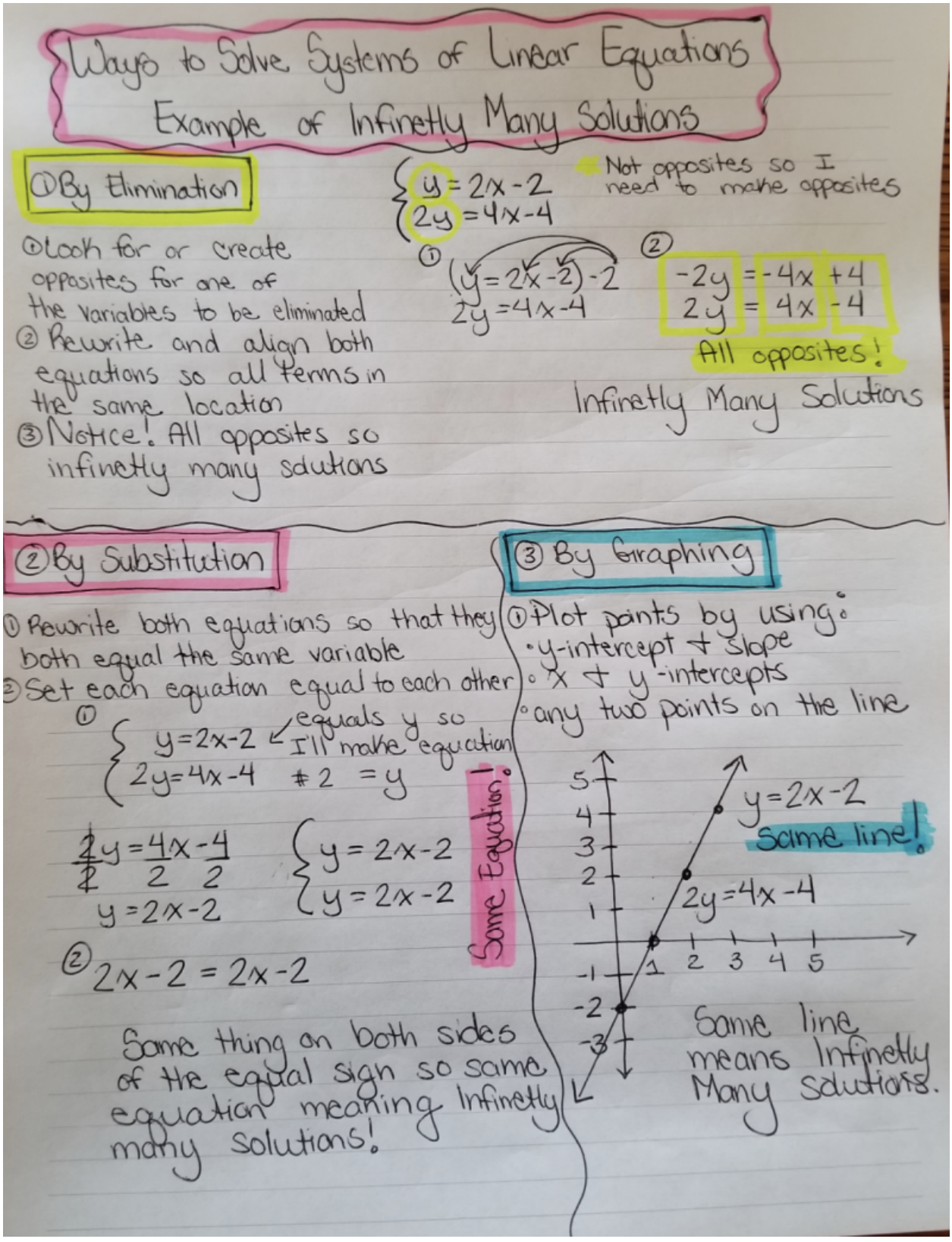
1) No Solution: - Same Slope (m)
   - Different y-int (b)
2) One Solution: - Different slope and y-intercept
3) Infinitely Many: - Same Slope and y-intercept

Steps for Solving a System from a Word problem:

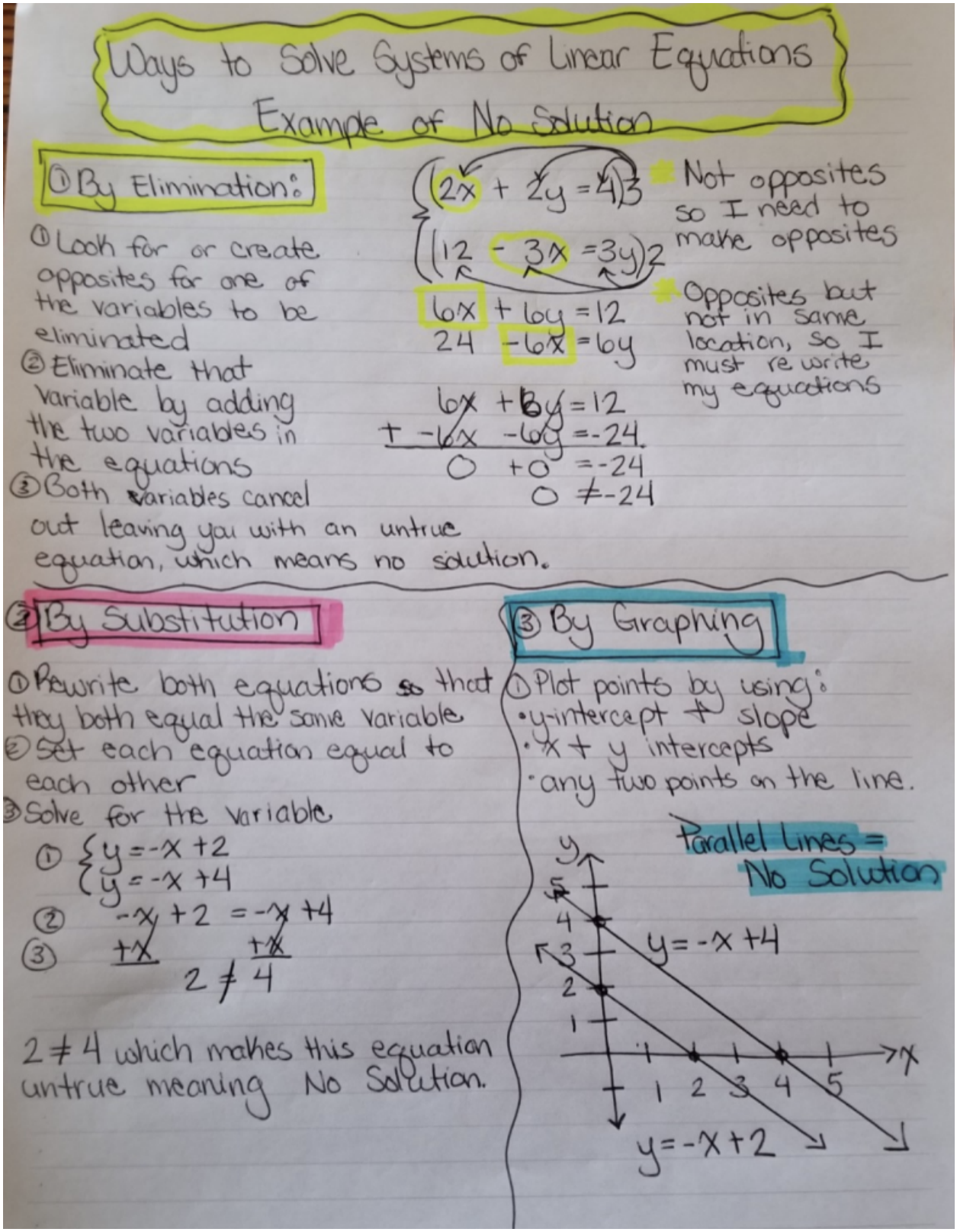
1.) Define Variables
2.) Write the System of Equations
3.) Solve the system through elimination or $x = x$ $y = y$
4.) Determine Nature

LV '20

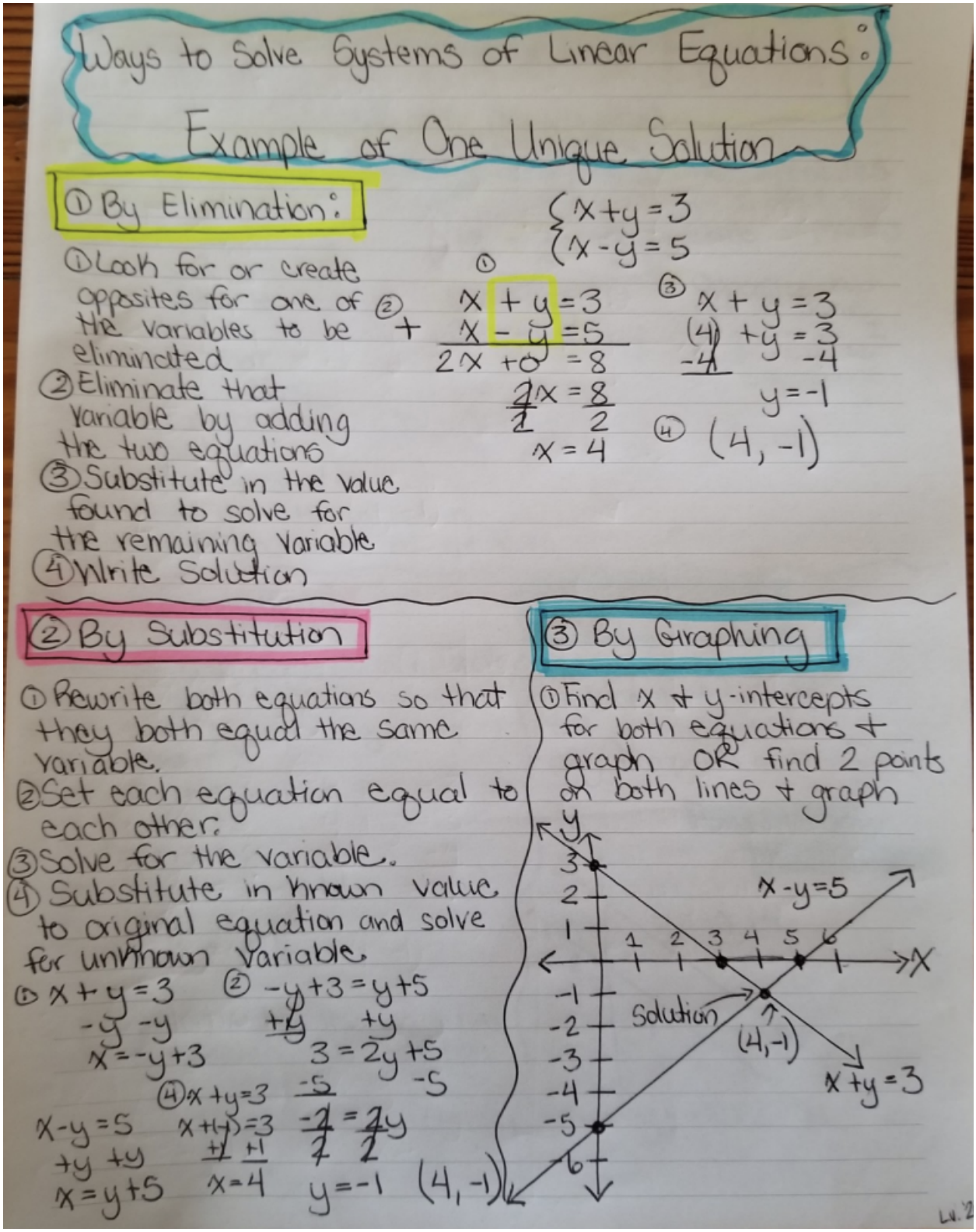
8.EE.B-C Writing and Solving Linear Equations Notes



8.EE.B-C Writing and Solving Linear Equations Notes



8.EE.B-C Writing and Solving Linear Equations Notes



Commute

Dad commutes → to and ← from work by train.

Identity

The fingerprints revealed the thief's identity.

Commutative Property of

Addition	Multiplication
4+5=9	4×5=20
5+4=9	5×4=20

Identity Property of

Addition	Multiplication
3+0=3	3×1=3

Associate

When at school, Josh often associates with Tanner.

When at home, Josh often associates with Kevin.

Distribute

Grandma distributes gifts to each grandchild.

Associative Property of

Addition	Multiplication
6+(7+3)=16	2×(5×4)=40
(6+7)+3=16	(2×5)×4=40

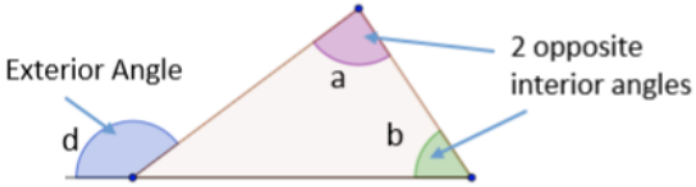
Distributive Property

20 + 30

5(4+6)=50

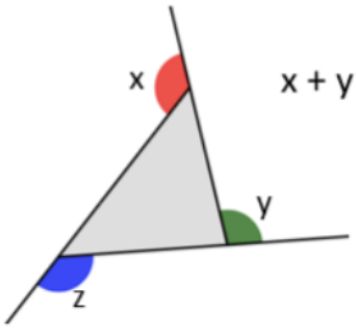
8.G.5 Exterior and Interior Angle Notes

The exterior angle is equal to the sum of the two opposite interior angles.

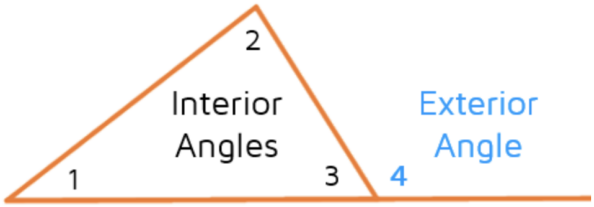


$d = a + b$

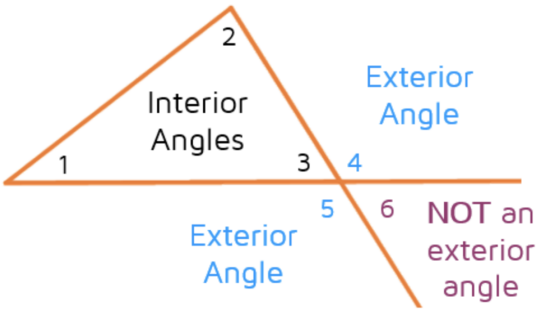
The sum of the exterior angles of a triangle and any polygon is 360°.



$x + y + z = 360°$

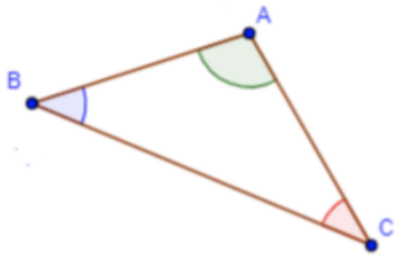


∠4 is an **exterior** angle. It forms a linear pair with interior ∠3.



∠6 is **not** an exterior angle. It does not share a side with an interior angle.

Interior Angles



$\angle A + \angle B + \angle C = 180°$

Simultaneous Linear Equations - Step-by-Step Lesson

Solve this system of equations by graphing. First graph the equations, and then write the solution.

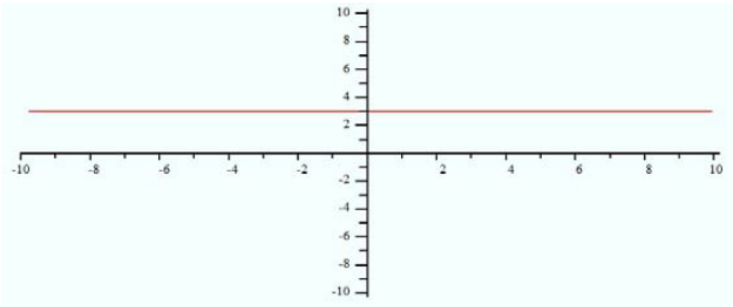
$y = 3$

$y = \frac{4}{2}x - 2$

Explanation:

Step 1) The first equation is $y = 3$

This equation tells you that every y-value is 3. Plot some points that have a y-value of 3, like (0, 3 and (1, 3), and then draw a line connecting them.



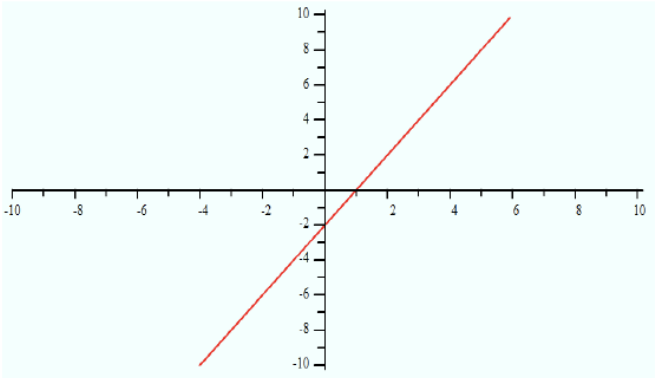
Step 2) The second equation is:

$$\frac{4}{2}x - 2$$

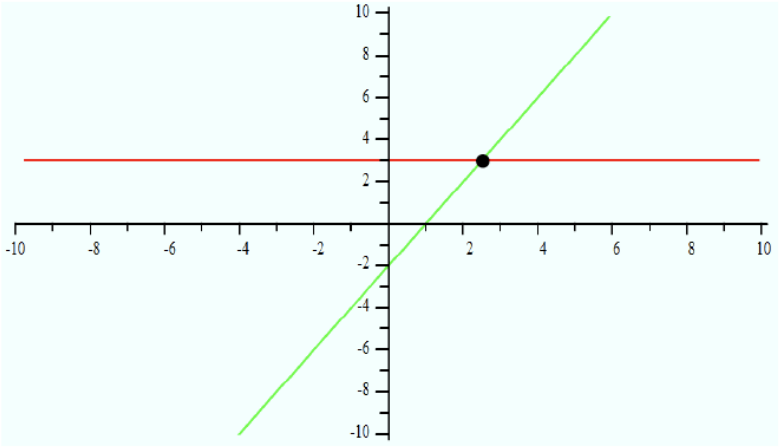
The y-intercept is -2. Plot the point (0, -2).

The slope is $\frac{4}{2}$. Move up 4 and right 2 to find another point on the line.

Draw a line connecting them.



Step 3) finally, identify the point of intersection.



The lines intersects at (2.5, 3), so the solution to the system of equations is (2.5, 3).

TRANSLATING KEY WORDS AND PHRASES INTO ALGEBRAIC EXPRESSIONS

The table below lists some key words and phrases that are used to describe common mathematical operations. To write algebraic expressions and equations, assign a variable to represent the unknown number. In the table below, the letter "x" is used to represent the unknown. In translation problems, the words **sum**, **total**, **difference**, **product** and **quotient** imply at least two parts – use parentheses when a **sum** or **difference** is multiplied. For example, the phrase "the **sum** of three times a number and five" translates to "3x + 5," while the phrase "**three times the sum** of a number and five" translates to "3(x + 5)."

OPERATION	KEY WORD/PHRASE	EXAMPLE	TRANSLATION
Addition (+)	plus	A number plus three	$x + 3$
	more than	Ten more than a number	$x + 10$
	the **sum** of	The sum of a number and five	$x + 5$
	the **total** of	The total of six and some number	$6 + x$
	increased by	A number increased by two	$x + 2$
	added to	Eleven added to a number	$x + 11$
Subtraction (−)	minus	A number minus seven	$x - 7$
	less than	Four less than a number	$x - 4$
	the difference of	The difference of a number and three	$x - 3$
	less	Nine less a number	$9 - x$
	decreased by	A number decreased by twelve	$x - 12$
	subtracted from	Six subtracted from a number	$x - 6$
Multiplication (x)	times	Eight times a number	$8x$
	the **product** of	The product of fourteen and a number	$14x$
	twice; double	Twice a number; double a number	$2x$
	multiplied by	A number multiplied by negative six	$-6x$
	of	Three fourths of a number	$\frac{3}{4}x$
Division (÷)	the **quotient** of	The quotient of a number and seven	$\frac{x}{7}$
	divided by	Ten divided by a number	$\frac{10}{x}$
	the ratio of	The ratio of a number to fifteen	$\frac{x}{15}$
Powers (x^n)	the square of; squared	The square of a number; a number squared	x^2
	the cube of; cubed	The cube of a number; a number cubed	x^3
Equals (=)	equals	Seven less than a number **equals** ten.	$x - 7 = 10$
	is	Three times a number **is** negative six.	$3x = -6$
	is the same as	Eight **is the same as** twice a number.	$8 = 2x$
	yields	Twelve added to a number yields five.	$x + 12 = 5$
	amounts to	Nine less a number **amounts to** twenty.	$9 - x = 20$

Math Slap!

Game adapted by Pamela Moeai

SKILL: Review and practice of multiplication facts to 169 (13 X 13)

PLAYERS:
Two of equal skill level

EQUIPMENT:
Playing Cards

VALUES:

- Jokers = 0
- Aces = 1
- 2 - 10 = Face Value
- Jacks = 11
- Queens = 12
- Kings = 13

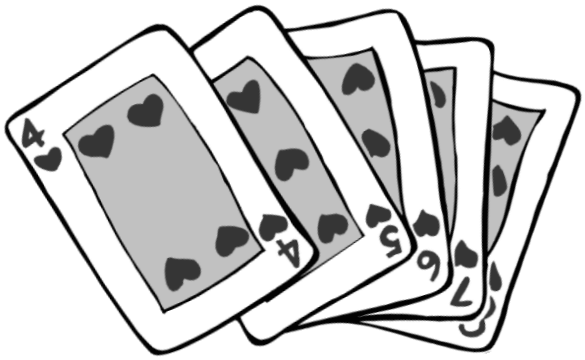
DIRECTIONS:

- Players divide the cards equally into two piles face down and take a pile.
- Players turn over one card at the same time
- Players multiply the two cards. The first player who says the correct answer out loud, collects both cards.
- In the event of a tie, players leave their cards face down and let the pile build.
- Play resumes until one player gives the correct answer before the other and collects all of the accumulated cards.

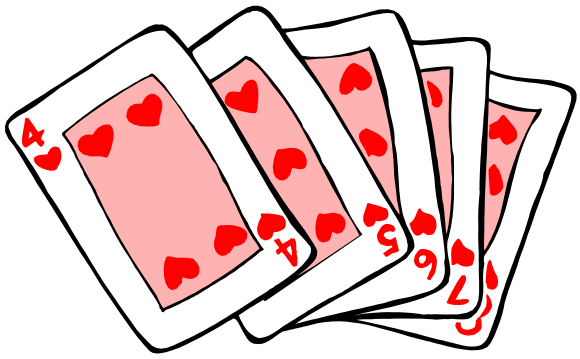
ABSOLUTE VALUE WAR

Remember: Absolute Value is the positive distance from zero.

|83| = 83 and |-83| = 83 because both numbers are 83 units away from zero.



Black Cards ~ Positive



Red Cards ~ Negative

- Using a deck of playing cards, with Face Cards and Aces removed, divide the deck between both players.
- Each player will lay a card face down at the same time.
- Decide which card has the highest absolute value. The player who placed that card down wins that round and gets both cards.
- Repeat until all cards have been played.
- The player with the most cards wins the game!
- Shuffle and play again.

Week 1: Day 1

Today's Goal: *I can evaluate and simplify expressions.*

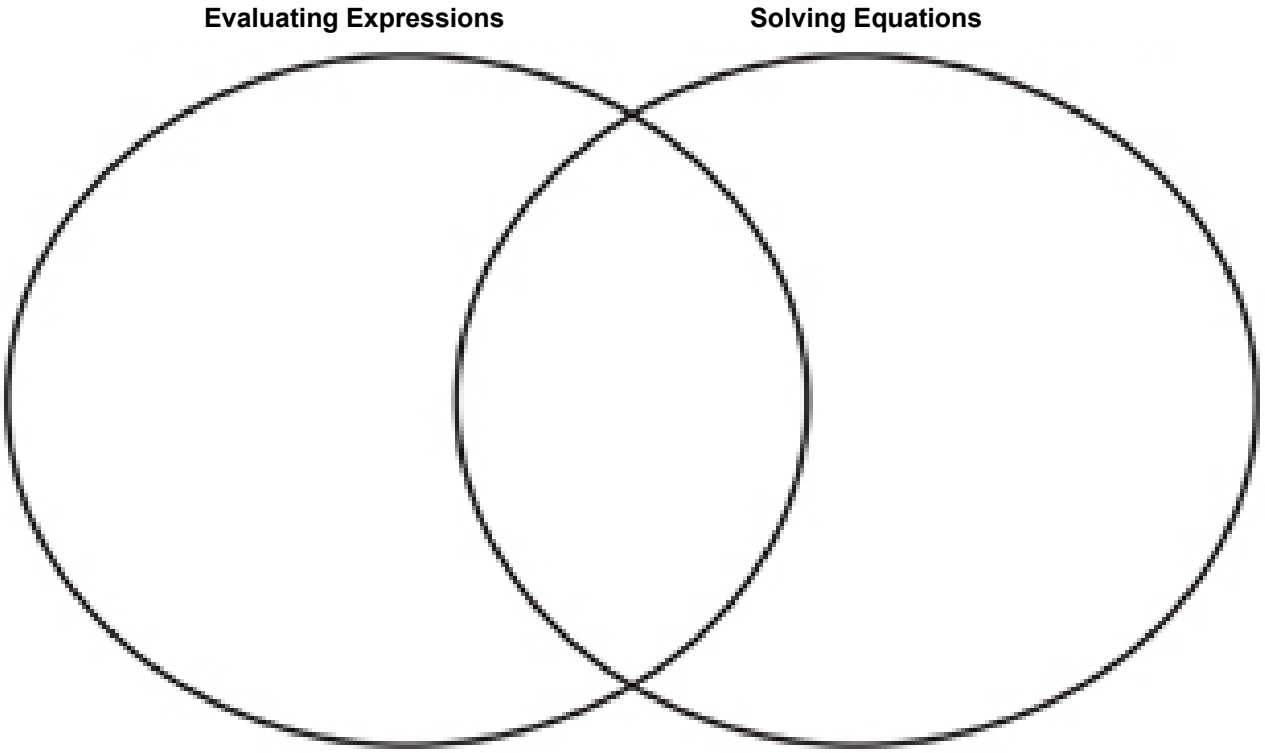
Part 1: Warm-up

1. **Riddle of the day:** I am a three-digit number. My tens digit is six more than my ones digit. My hundreds digit is eight less than my tens digit. What number am I?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

3. Complete the Venn Diagram with what you know about evaluating expressions and solving equations.

   (Remember that the outer spaces are for things unique to each vocabulary word and the space where the circles overlap is to show what the two vocabulary words have in common.)



Part 2: Review

Directions: For each of the expressions below, state what the first operation would be, in accordance with the order of operations.

Exercise 1:

$2^3 \cdot x^4 - 6 \div 2$ = _____

$2 \cdot y - 8 \div 4$ = _____

$(3+4^2) - 5 \times 3$ = _____

$2(w - 7)$ = _____

Exercise 2:

If W= 45,what is the value of 2(w-7)?

a.) 38
b.) 52
c.) 76
d.) 83

Exercise 3: Evaluate the following expression and choose the correct answer.

$(3+4^2) - 5 \times 3$

a.) 8
b.) -4
c.) 3
d.) 4

Part 3: Practice

Directions: Complete the problems below to help you practice applying your knowledge of evaluating expressions. Use a piece of scratch paper if you need more room to show your work!

Exercise 1:

A baker uses the expression 3.25c + 5.75p to calculate his profit when he sells c cakes and p pies. What is the baker's profit, in dollars when he sells 10 cakes and 15 pies?

A. $106.25
B. $1350.00
C. $90
D. $135
E. $118.75

Exercise 2: Fill in the blank with your answer to complete the sentence.

The surface area, S, of a right rectangular prism with length, l, width, w, and height, h, can be found using the formula

$$S = 2(lw + wh + hl)$$

.

What is the surface area, in square inches, of a prism with a length of 12 inches, a width of 9 inches and a height of 2 inches?

The surface area is _____ square inches.

Exercise 3: Solve

Select the value of $2^3 \cdot x^4 - 6 \div 2 \quad \text{when} \quad x = 3$

A. 69
B. 66
C. 645
D. 300
E. 93

Part 4: Reflection & Brain Growth

Directions: Use your knowledge of evaluating and simplifying expressions to answer the questions below.

Elena and Jorge have similar problems and find the same answer. Each determines that the solution to the problem is 24.

Elena: $(14 + 42) \div 7 + 4^2$	**Jorge:** $14 + (42 \div 7) + 4^2$
$56 \div 7 + 4^2$	$56 \div 7 + 4^2$
$56 \div 7 + 16$	$56 \div 7 + 16$
$8 + 16$	$8 + 16$
24	24

Did both students evaluate the expressions correctly? What mistakes were made, if any?

Week 1: Day 2

Today's Goal: *I can apply properties of operations to add and subtract linear expressions.*

Part 1: Warm-up

1. **Riddle of the day:** A word I know, six letters it contains, remove one letter and 12 remains, what is it?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

3. **Optional:** Choose from any of the "Activities & Games" in the April Packet to play with a family member or by yourself.

Part 2: Review

Directions: Read each sentence and write a *number sentence* that is equivalent.

Example: Forty-three plus ten = 43 + 10

The sum of ten and forty-three = _____ Two divided by one = _____

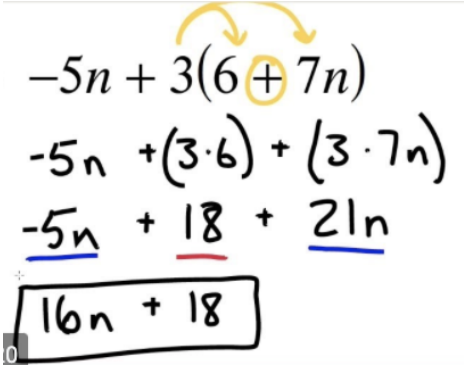
One divided by two = _____ The difference between five and four = _____

The difference between four and five = _____ The product of nine and fifteen = _____

Part 3: Practice

Directions: Review the example and solve each question in the exercises below. Use scratch paper if the space below is not enough to do your work.

Example:



Supplemental Videos: Type into your browser:
https://learnzillion.com/lesson_plans/8635-add-linear-expressions-by-combining-like-terms/

Exercise 1: Select the best answer.

Which operation will not change the value of any nonzero number ?

A. Dividing by Zero
B. Adding One
C. Multiplying by One
D. Multiplying by Zero

Which property is used in the following expression ? 7(6 + 4) = 42 + 28

A. Distributive Property
B. Associative Property of Multiplication
C. Associative Property of Addition
D. Commutative Property of Addition

Which equation shows the Multiplicative Inverse of a Number ?

A. a x (1/a) = 1
B. a + -a = 0
C. a x 1 = a
D. a x 0 = 0

Simplify this expression : 7(y + z)

A. 7y + z
B. 7z + y
C. 7y + 7z
D. 7yz

Exercise 2: Solve at least 3 out of 5 of the below equations.

$2(3-h)-6=-5h$

$7+9d=7d+3$

$-2(4+3y)=-2(4+y)$

$-7+4c=7c+6$

$5(1+s)=-9s+6$

Exercise 3: Solve at least 3 out of 5 of the below equations.

$$2(3x-2)+9=-5x$$

$$3(1+p)=-5(p+1)$$

$$3(1-3g)=-7+g$$

$$1+2b=4b+9$$

$$2z+6=3z+1$$

Part 4: Reflection & Brain Growth

1.) After **completing your work**, what questions do you may have for your teacher?

2.) After talking with your teacher in zoom or on the phone about **what you learned,** what are some skills or concepts you now more clearly understand? Why?

Week 1: Day 3

Today's Goal: *I can apply properties of operations to expand and factor linear expressions.*

Part 1: Warm-up

1. **Riddle of the day:** Mr. Smith has 4 daughters. Each of his daughters has a brother. How many children does Mr. Smith have?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

Directions: Write the algebraic expression that matches the word form and operation in matching order.

Operation	Word Form	Expression
Addition	• Add three to a number	
	• A number plus four	
	• The sum of a number and three	
	• A number increased by five	
	• Three added to a number	
	• Five and a number	
Subtraction	• A number minus twelve	
	• The difference between a number a twelve	
	• A number decreased by ten	
	• A number less tseven	
Multiplication	• Five time a number	
	• Five multiplied by a number	
	• The product of six and a number	
Division	• Seven divided into a number	
	• A number divided by seven	
	• The quotient of a number and ten	
Dig Deeper	• Twelve subtracted from a number	
	• Twelve less than a number	

Part 3: Practice

Directions: Solve each question in the exercises below.

Supplemental Videos: Type into your browser-
https://www.youtube.com/watch?v=Xi2wuS4qltg
https://learnzillion.com/lesson_plans/9033-factor-linear-expressions/

Exercise 1:

Which property is used in the following expression ? (a x b) x c = a x (b x c)

A. Distributive Property
B. Associative Property of Multiplication
C. Associative Property of Addition
D. Commutative Property of Addition

Which of the following does not show the Commutative Property of Addition ?

A. 3x + 4y = 4y + 3x
B. ab = ba
C. a + b = b + a
D. 4 + x = x + 4

Which property would you use to simplify the following expression ? 5(y + 2)

A. Commutative Property
B. Multiplication Property of Zero
C. Associative Property
D. Distributive Property

Which is an example of Associative Property of Addition ?

A. 3 + 8 = 8 + 3
B. 7 + 0 = 7
C. (8 + 6) + 4 = 8 + (6 + 4)
D. 9 + (-9) = 0

Exercise 2: Expand the following by using the distributive property

a.) $6\left(-3w + \frac{1}{3}\right)$

b.) $7\,(10s - 10)$

c.) $\frac{4}{9}\left(\frac{2}{5}x - \frac{3}{8}\right)$

d.) $5\,(2x + 3)$

Exercise 3: Use the distributive property to factor the below expressions. Remember the vocabulary, coefficient and constant!

$30b + 45$	$-28p + 14$
$-40r + 25d$	$12 - 18x$
$\frac{1}{2}r + 8$	$0.75r + 0.25$

Part 4: Reflection & Brain Growth

Solve the below question and explain your reasoning on the lines provided.

Which expression below is NOT equivalent to this expression? $-6x + 12y$

A) $-6(x - 2y)$ B) $-3(2x - 4y)$ C) $2(-3x + 6y)$ D) $\frac{1}{2}(-12x + 24y)$ E) $-6(x + 2y)$

Week 1: Day 4

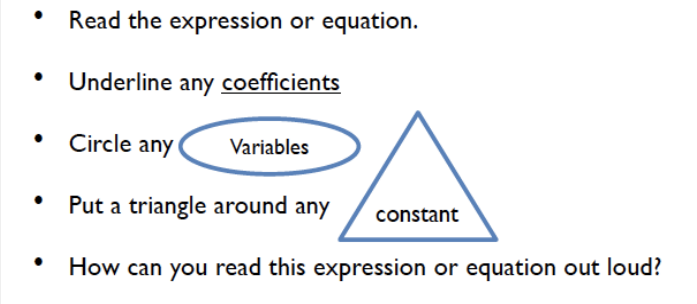
Today's Goal: *I can create and solve equations to solve a real-world problem*

Part 1: Warm-up

1. **Riddle of the day:** How do you write 23 using only the number 2? 34 using only the number 3? 56 using only the number 5? 100 using only the number 9?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review



1. $12 + x$ This is an **expression** (expression/equation)

I can read this as **twelve more than a number OR a number more than twelve.**

2. $4x = 32$ This is an _____(expression/equation)

I can read this as _____.

3. $b - 2 = 14$ This is an _____(expression/equation)

I can read this as _____.

4. $22 - b = 14$ This is an _____(expression/equation)

I can read this as _____.

5. $10 + 3n$ This is an _____(expression/equation)

I can read this as _____.

Part 3: Practice

Directions: Solve the problems in each exercise.

Notes: for solving equations of the form $px + q = r$ and $p(x + q) = r$ and is to rewrite them into the form x= a number using the properties of operations. See example below:

Exercise 1:

Which of the following is an example of Commutative Property of Addition ?

A. (9 + 8) + 6 = 9 + (8 + 6)

B. 2 + 9 = 9 + 2

C. 3 + 5 = 7 + 3

D. 4 x 1 = 4

Which Property of Multiplication is shown ? (2 + 4) x 6 = 2 x 6 + 4 x 6

A. Associative Property

B. Identity Property

C. Commutative Property

D. Distributive Property

Which property is used in the following expression ? (2 x 8) x 5 = 8 x (5 x 2)

A. Commutative Property of Addition

B. Distributive Property of Multiplication

C. Associative Property of Addition

D. Associative Property of Multiplication

Which equation shows the Identity Property of Multiplication ?

A. a + a + a = 3 x a

B. a(b + c) = ab + ac

C. a x 1

D. (a + b) + 2 = a + (2 + b)

Exercise 2: Read the question. Show your thiking in the space below and complete the sentence with your answer.

a.) Three consecutive even numbers add up to 48. What is the **lowest** number of the three?

The **lowest** number of the three will be_____.

b.) Mrs. Thomas had $25 to spend on party favors for his son's party. She had $10.40 left after buying 10 balloons. How much did she spend on each balloon?

Mrs. Thomas spent _____ on each balloon.

c.) Denise had $30 to spend on groceries. She had $17.50 left after buying soda for the family cookout. How much did she spend on each soda?

Denise spent _____ on each soda.

d.) A number is 1/7 of another number. The difference of the numbers is 18 . (Assume that you are subtracting the smaller number from the larger number.) Find the numbers.

Week 1: Day 5

Today's Goal: *I can create and describe the solution set of inequalities in a real-world context.*

Part 1: Warm-up

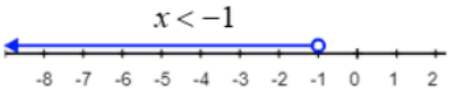
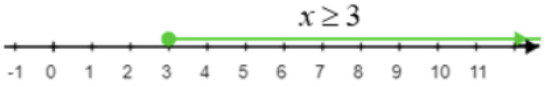
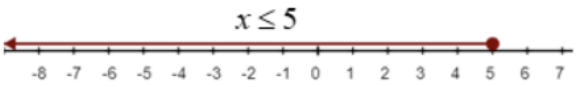
1. **Riddle of the day:** Create an equation using all the below numbers and mathematical symbols.

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

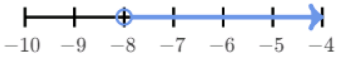
3. **Optional:** Choose from any of the "Activities & Games" in the April Packet to play with a family member or by yourself.

Part 2: Review

Directions: Review the Inequalities chart and then solve the problems in the boxes below..

Symbol	Words	Example
>	Greater than	
<	Less than	
≥	Greater than and equal	
≤	Less than and equal	

Determine the inequality represented by this graph on the number line.



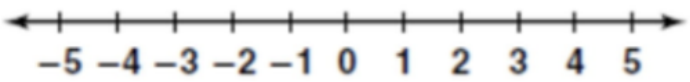
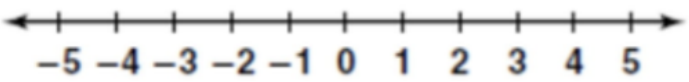
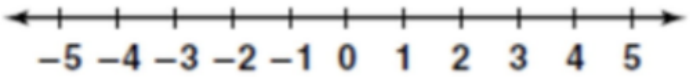
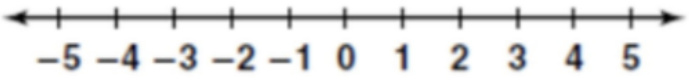
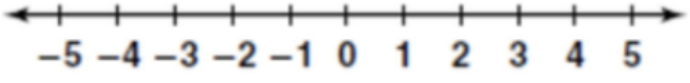
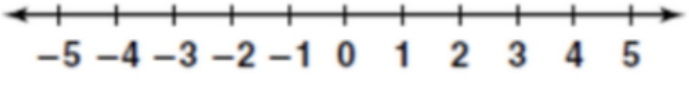
_____

Determine the inequality represented by this graph on the number line.

_____

Part 3: Practice

Exercise 1: Graph the following inequalities on the lines provided in each box.

Graph A > - 4 	**Graph B < 5** 
Graph C = - 1 	**Graph D ≤ -4** 
Graph E ≥ 3 	**Graph 5 > F** 

Exercise 2: Read the task and answer the questions below.

Jonathan wants to save up enough money so that he can buy a new sports equipment set that includes a football, baseball, soccer ball, and basketball. This complete boxed set costs $50. Jonathan has $15 he saved from his birthday.

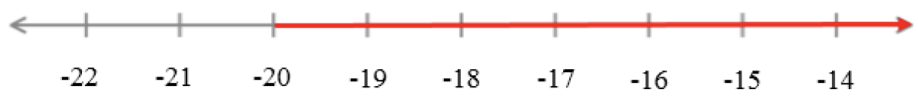
In order to make more money, he plans to wash neighbors' windows. He plans to charge $3 for each window he washes, and any extra money he makes beyond $50 he can use to buy the additional accessories that go with the sports box set.

1.) Write and solve an inequality that represents the number of windows Jonathan can wash in order to save at least the minimum amount he needs to buy the boxed set.

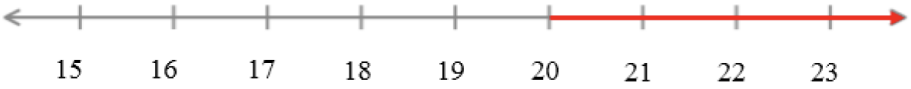
2.) Graph the solutions on the number line. What is a realistic number of windows for Jonathan to wash? How would that be reflected in the graph?

Exercise 3: Draw a line to match the graph and the inequality

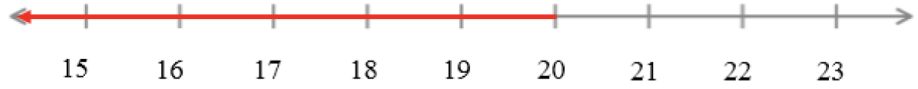
Graph 1



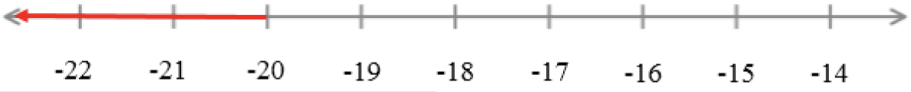
Graph 2



Graph 3



Graph 4



$-0.5x \leq 10$

$\frac{3x}{2} \geq 30$

$-5 + x \leq 15$

$10 + x \leq -10$

Part 4: Reflection & Brain Growth

After **completing your work**, what questions do you may have for your teacher?

Week 2: Day 1

Today's Goal: *I can determine how many solutions there are to a linear equation*

Part 1: Warm-up

1. **Riddle of the day:** What question can you never answer yes to?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

Directions: Solve the problem below.

Tim wanted to solve the problem below. He can take many first steps to solve this problem. However, not all first steps are mathematically correct.

$$5x - 6 = -4x + 9$$

Which of the following would not be a possible first step for solving this equation algebraically?

a) Add 4x to both sides.
b) Divide both sides by 5.
c) Subtract 5x from both sides.
d) Add 6 to both sides.
e) Subtract 9 from both sides.

Why would your answer not be a possible first step?

_____

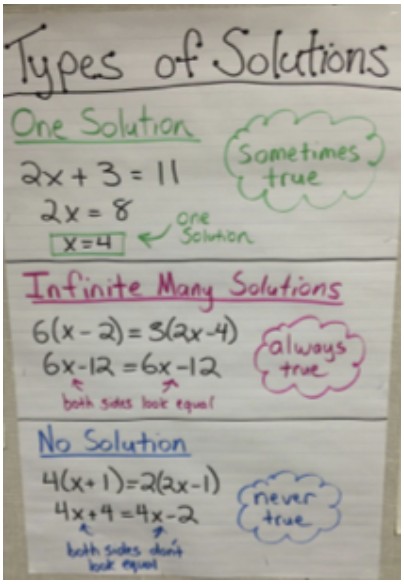
What would be a good first step?

_____

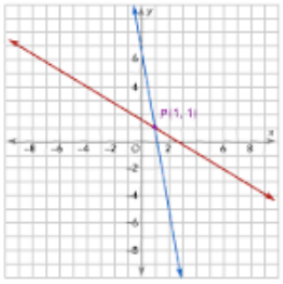
_____

Solve for X.

Part 3: Practice

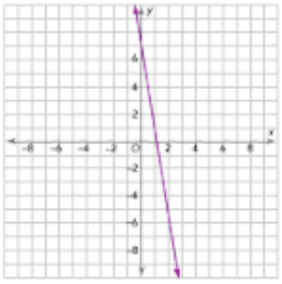


Unique Solution
Intersecting Lines



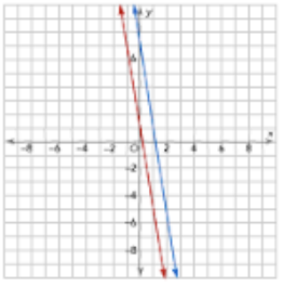
$\begin{cases} 6x + y = 7 \\ 3x + 5y = 8 \end{cases}$

Infinite Solution Set
Coincident Lines



$\begin{cases} 6x + y = 7 \\ 12x + 2y = 14 \end{cases}$

No Solution
Parallel Lines



$\begin{cases} 6x + y = 7 \\ 6x + y = 1 \end{cases}$

Directions: Review the anchor chart on the previous page and answer the questions in the below space.

Supplemental Videos: Type into your browser:
https://www.youtube.com/watch?v=WoyHVxEYnWg

Consider the equation $5x - 2y = 3$. If possible, find a second linear equation to create a system of equations that has:
Hint: First, rewrite the given equation in slope-intercept form

a. Exactly 1 solution.

b. Exactly 2 solutions.

c. No solutions.

d. Infinitely many solutions.

Bonus Question: In parts (a)-(d), write another equation that has the given number of solutions?

Part 4: Reflection & Brain Growth

Victor attempted to solve the equation $-\frac{2}{3}x - \frac{3}{4}x = \frac{5}{6}$. His work is shown in the steps below.

Step 1:	$-\frac{8}{12}x - \frac{9}{12}x = \frac{5}{6}$
Step 2:	$-\frac{17}{12}x = \frac{5}{6}$
Step 3:	$\left(-\frac{12}{17}\right)\left(-\frac{17}{12}\right)x = \left(\frac{5}{6}\right)\left(-\frac{17}{12}\right)$
Step 4:	$x = -\frac{85}{72}$

In which step did Victor make a mistake?

Week 2: Day 2

Today's Goal: *I can solve multi-step linear equations.*

Part 1: Warm-up

1. **Riddle of the day:** How many numbers do you see here?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

1. **Solve for x:**

$$\frac{1}{2}(8x - 10) = 7$$

2. Robin spent $17 at an amusement park for admission and rides. She paid $5 for an admission ticket, and a ride costs $3.

   PART A: Write an equation you could use to find how many rides, *r*, Robin went on.

   Equation: _____

   PART B: Solve the equation you wrote in PART A. Show your work.

Part 3: Practice

Directions: Solve each problem in the space provided below.

1. **Which algebraic equation represents the statement "28 is 6 *less than the product of 9 and a number n*"?**

   A. $28 = 6 - 9n$

   B. $28 = 9n - 6$

   C. $28 = \frac{9}{n} - 6 = 22$

   D. $28 = 9 - 6n$

2. $\frac{b+2}{-7} = 0$

3. $7 - 4(-4n + 3) = -133$

4. $-4 + 7(2x + 5) = 101$

5. $-70 = -2b - (10b - 2)$

6. $-2 = \frac{v-5}{-3}$

Week 2: Day 3

Today's Goal: *I can solve multi-step linear equations using the distributive property.*

Part 1: Warm-up

1. **Riddle of the day:** If 3 cats can catch 3 bunnies in 3 minutes, how long will it take 100 cats to catch 100 bunnies?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p. 5) in "Notes & Anchor Charts" section of this packet.

Part 2:Review & Practice

Directions: Use the space next to each problem to solve for X.

Supplemental Videos: Type into browser: https://www.youtube.com/watch?v=j8Frl90lY5k

Exercise 1: Use the distributive property to solve for X.

$3x - 5(5x + 21) = 93$	
$-179 = -3x + 5(3x - 19)$	
$138 = -6x - 7(-4x + 18)$	
$-25 = -5x + 5(-2x + 22)$	

Exercise 2: Solve for X

$-90 = -2x + 6(2x - 5)$	
$-7x + 6(-6x + 10) = -241$	
$123 = 3x - 3(-2x - 20)$	
$-3x + 4(5x + 2) = -94$	

Part 4: Reflection & Brain Growth

1. Why is solving equations with negative integers often where people make mistakes? What is important to remember when applying the distributive property?

2. After **completing your work**, what questions do you may have for your teacher?

Week 2: Day 4

Today's Goal: *I can use interior and exterior angle sums of triangles to solve problems.*

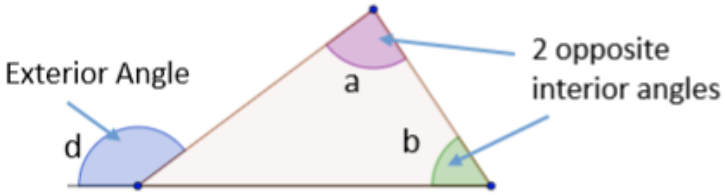
Part 1: Warm-up

1. **Riddle of the day:** How many letters are there in the English alphabet?
2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p. 5) in "Notes & Anchor Charts" section of this packet.
3. **Optional:** Choose from any of the "Activities & Games" in the April Packet to play with a family member or by yourself.

Part 2: Review

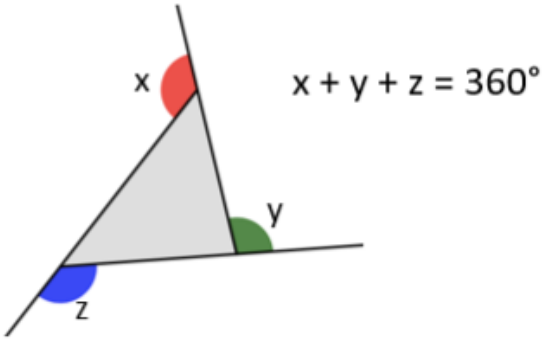
Directions: Review the below definitions and equations to support your practice with interior and exterior angle sums of triangles.

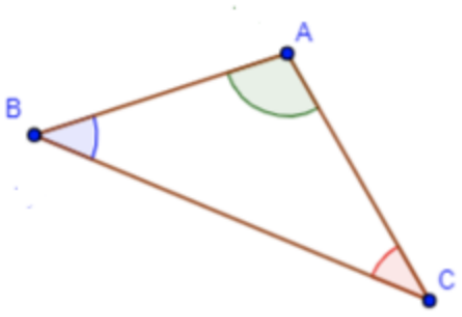
The exterior angle is equal to the sum of the two opposite interior angles.



$d = a + b$

The sum of the exterior angles of a triangle and any polygon is 360°.





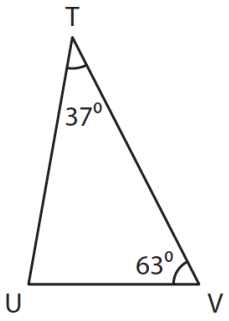
$$\angle A + \angle B + \angle C = 180°$$

Part 3: Practice

Directions: Find the measure of the indicated angle in each question. Solve at least 4 problems of exercise 1 and 2. Solve at least 2 problems of exercise 3.

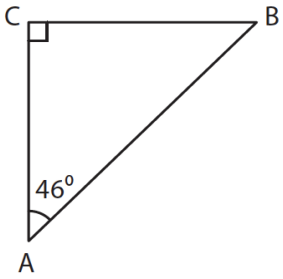
Exercise 1: Interior angles. Solve at least 4 of the below problems.

1)



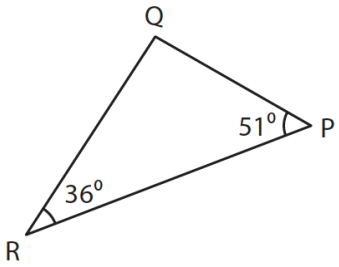
m∠U = _____

2)



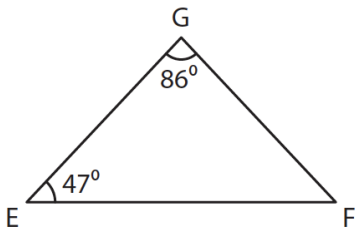
m∠B = _____

3)



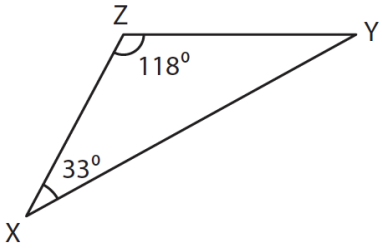
m∠Q = _____

4)



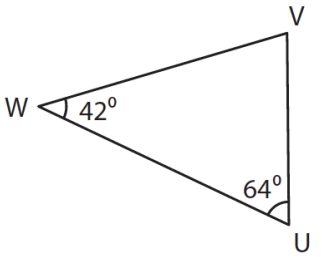
m∠F = _____

5)



m∠Y = _____

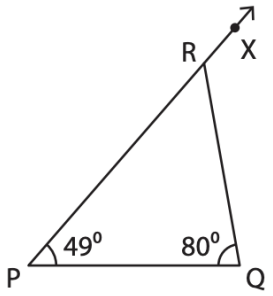
6)



m∠V = _____

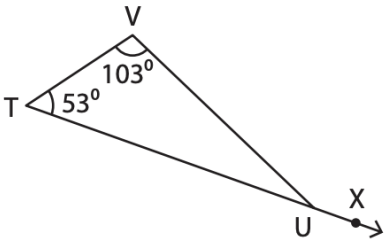
Exercise 2: Exterior angles. Solve at least 4 of the below problems.

1)



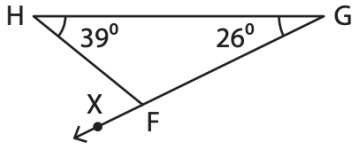
m∠QRX = _____

2)



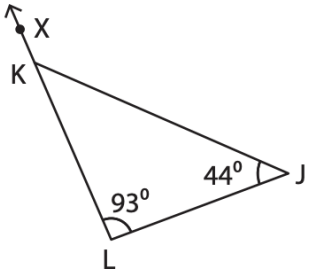
m∠VUX = _____

3)



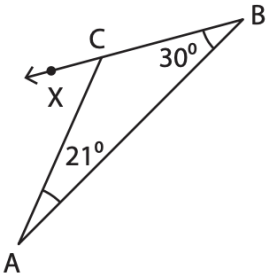
m∠HFX = _____

4)



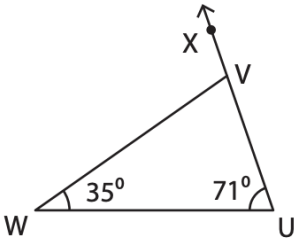
m∠JKX = _____

5)



m∠ACX = _____

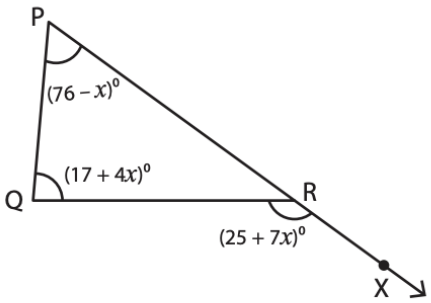
6)



m∠WVX = _____

Exercise 3: Solve for X in each triangle and find the measure of the indicated angle. Solve at least 2 of the below problems.

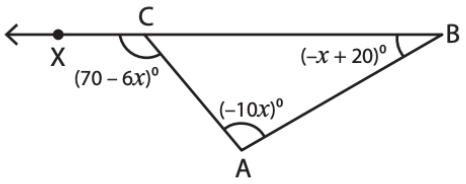
1)



$x =$ _____

m∠QRP = _____

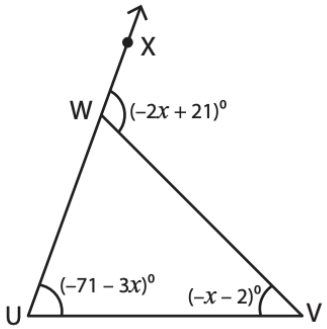
2)



$x =$ _____

m∠A = _____

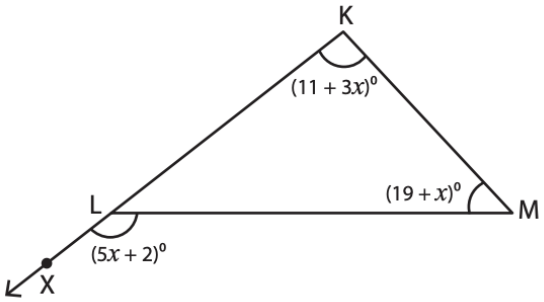
3)



$x =$ _____

m∠U = _____

4)



$x =$ _____

m∠XLM = _____

Part 4: Reflection & Brain Growth

1. After **completing your work**, what questions do you may have for your teacher?

2. After talking with your teacher in zoom or on the phone about **what you learned,** what are some skills or concepts you now more clearly understand? Why?

Week 2: Day 5

Today's Goal: *I can use facts about angles that are formed when parallel lines are cut by a transversal to solve problems.*

Part 1: Warm-up

1. **Riddle of the day:** What is always in front of you but can't be seen?

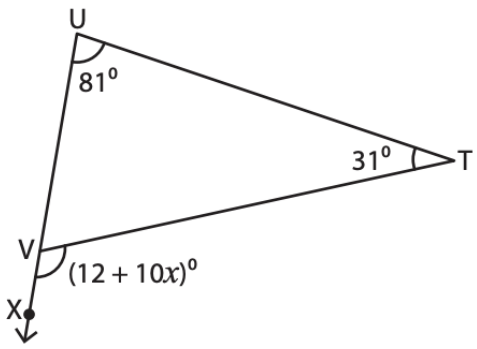
2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

3. **Optional:** Choose from any of the "Activities & Games" in the April Packet to play with a family member or by yourself.

Part 2: Review

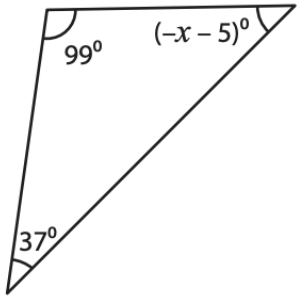
Directions: Find the value of X in each triangle.

1)



$x =$ _____

2)

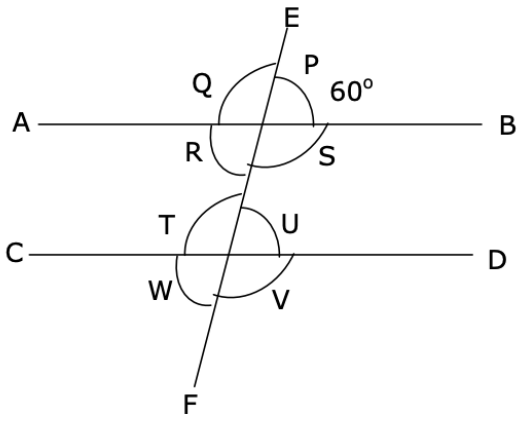


$x =$ _____

Part 3: Practice

Directions: Solve each problem in exercise 1 and 2. Don't forget to show your work on the side or seperate piece of paper.

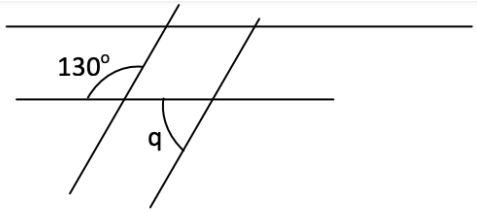
Exercise 1: Write the letters of the answers that match the problem.



_____	1. find angle "Q"	a.	120°
_____	2. find angle "R"	b.	60°
_____	3. find angle "S"		
_____	4. find angle "W"		
_____	5. find angle "V"		
_____	6. find angle "T"		

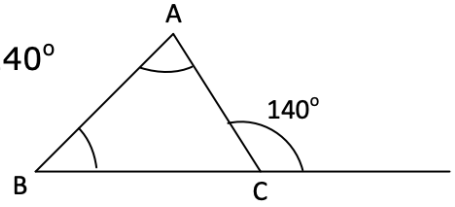
Exercise 2: Solve at least 4 problems below. Show your thinking.

1) Find the measure of ∠q in the figure.

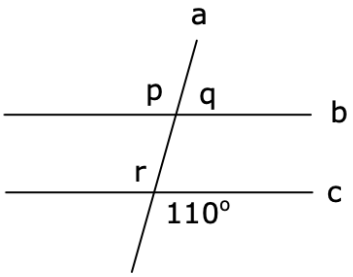


2) ∠A and ∠B are equal. ∠C exterior angle = 140°

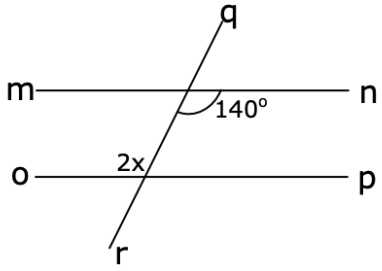
Find the measure of ∠A and ∠B in the figure.



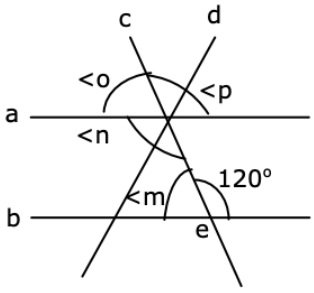
3) What are the measures of ∠p, ∠q and ∠r in the figure?



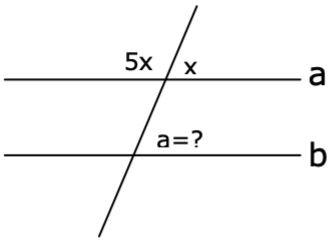
4) mn and op are two parallel lines with qr as the transversal. Find the value of x.



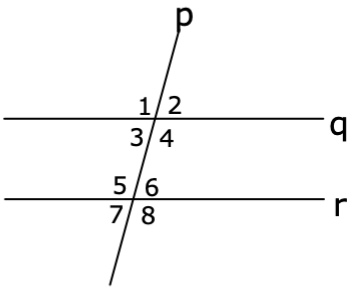
5) a and b are parallel lines. Find the value of <m <n <o <p



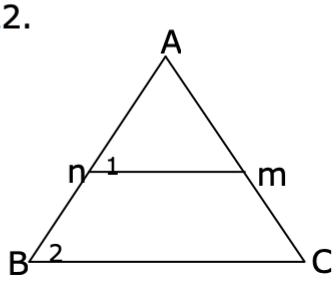
7) The lines a and b are parallel. Find a.



8) Find the measure of ∠4, if m∠7 = 72°



9) The line nm is drawn parallel to the base BC in the triangle ABC. If the m∠1 = 51°, find the m∠2.



Part 4: Reflection & Brain Growth

1. After **completing your work**, what questions do you may have for your teacher?

2. After talking with your teacher in zoom or on the phone about **what you learned,** what are some skills or concepts you now more clearly understand? Why?

Week 3: Day 1

Today's Goal: *I can calculate unit rates in real-world contexts.*

Part 1: Warm-up

1. **Riddle of the day**: If 7 is transformed into 13 and 11 is changed to 21 then what does 16 become?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

Directions: Review the example and find the unit rate.

240 feet in 12 seconds	
216 runs in 54 games	
$147 for 3 days	
405 walks in 135 games	
$294 for 7 days	
450 feet in 25 seconds	
980 miles in 49 seconds	
380 feet in 20 seconds	
$561 for 11 days	
180 runs in 36 games	

A Unit Rate tells the rate in lowest terms or the amount for one.

$$\frac{90 \text{ miles}}{5 \text{ hours}} = \frac{18 \text{ miles}}{1 \text{ hour}}$$

Part 3: Practice

Directions: Find the unit rate for each option to decide which is the "Best Deal". Check off the "Best Deal" and write what the unit rate of that option is in the space provided.

Option 1	VS.	Option 2	Best Deal
Sargento Cheese Slices $2.48 for 10 Slices	VS.	Velveeta Cheese Slices $3.18 for 12 Slices	O Option 1 O Option 2 Unit Rate: _____
Oreos $2.98 for 15.5oz	VS.	Chips Ahoy $2.50 for 14oz	O Option 1 O Option 2 Unit Rate: _____
Doritos $4.39 for 11.5oz	VS.	Cheetos $2.24 for 9.75oz	O Option 1 O Option 2 Unit Rate: _____
Sarah Lee Turkey $6.58 per lb	VS.	Butterball Turkey $11.16 for 2lb	O Option 1 O Option 2 Unit Rate: _____
Coca-Cola $1.29 for 1.25L	VS.	Pepsi $2.49 for 2L	O Option 1 O Option 2 Unit Rate: _____

Optional:

Option 1	VS.	Option 2	Best Deal
Cheerios $3.68 for 17oz	VS.	Apple Jacks $2.89 for 13oz	O Option 1 O Option 2 Unit Rate: _____
Kidney beans $1.18 per lb	VS.	Lima beans $2.13 for 2lb	O Option 1 O Option 2 Unit Rate: _____
Goldfish Crackers $1.99 for 7.2oz	VS.	Cheese-Its $2.70 for 13.7oz	O Option 1 O Option 2 Unit Rate: _____
Daisy Sour Cream $1.49 for 8 oz	VS.	Kraft Sour Cream $2.55 for 16oz	O Option 1 O Option 2 Unit Rate: _____
Crayola Crayons $6.97 for 120	VS.	Rose Art Crayons $1.53 for 24	O Option 1 O Option 2 Unit Rate: _____

Part 4: Reflection & Brain Growth

Edwin runs two laps in 12 minutes.

Predict:

a) The number of laps he could run in an hour.

b) The time it would take to run one lap.

c) The time it would take to run three laps.

Week 3: Day 2

Today's Goal: *I can determine if two quantities are in a proportional relationship using tables and graphs.*

Part 1: Warm-up

1. Riddle of the day: What's black and white and blue?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

3. **Optional:** Choose from any of the "Activities & Games" in the April Packet to play with a family member or by yourself.

Part 2: Review

Directions: Complete the ratio tables to help you solve the following problems. Include your units of measure and write a statement with the ratio in the answer.

1. Using the table given, how many cookies could you make with 4 cups of flour?

2. Using the table given, how many cups of flour would you need to make 90 cookies?

Cups of Flour	1		
Number of Cookies	30		

Written statement:

1. For every 1 cup of flour, I can make 30 cookies, so I can make 120 cookies with 4 cups of flour.

2. For every ___ cup of flour, I can make ___ cookies, so with 90 cookies, I need ___ cups of flour.

Part 3: Practice

Directions: Answer the questions in exercise 1 and 2.

Exercise 1:

1) Drew is an artist. He paints portraits. The table below shows the number of portraits painted in hours. Do the numbers in the table represent a proportional relationship?

Number of portraits	Time (In Hours)
1	5
2	10
3	15
4	20

2) This table shows the amount earned by Harry for selling cups of ice cream. Do the numbers in the table represent a proportional relationship?

Cups sold (km)	Earnings ($)
3	12
5	20
7	28
9	36

Exercise 2:

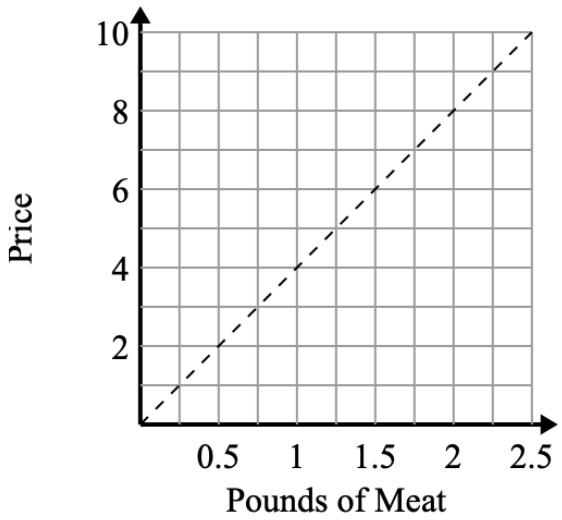
1. A recipe calls for cup sugar and 1 cup flour. Complete the table to show how much sugar and flour to use in different numbers of batches of the recipe.

Sugar (cups)	Flour (cups)
	1
1	

2. A factory produces 3 bottles of sparkling water for every 8 bottles of plain water. How many bottles of sparkling water does the company produce when it produces 600 bottles of plain water? Write an equation to represent the proportional relationship.

Number of Bottles of Sparkling H^2O	Number of Bottles of Plain Water

Exercise 3:



A. The point (2 , 0.5) shows that buying 0.5 pounds of meat will cost $2.

B. The point (1 , 0.25) shows that $1 will buy you 0.25 pound of meat.

C. The point (1.75 , 7) shows that buying 1.75 pounds of meat will cost $7.

D. The point (1.25 , 5) shows that $5 will buy you 1.25 pounds of meat.

Week 3: Day 3

Today's Goal: *I can identify the constant of proportionality in tables, graphs, and equations.*

Part 1: Warm-up

1. **Riddle of the day:** When things go wrong, what can you always count on?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

Directions: Solve each question and show your thinking next to each problem.

1. On a map of North Carolina, 27 centimeters represents 18 miles. Based on the map, what equation would calculate the number of miles between two cities, y, when they measure x centimeters apart?

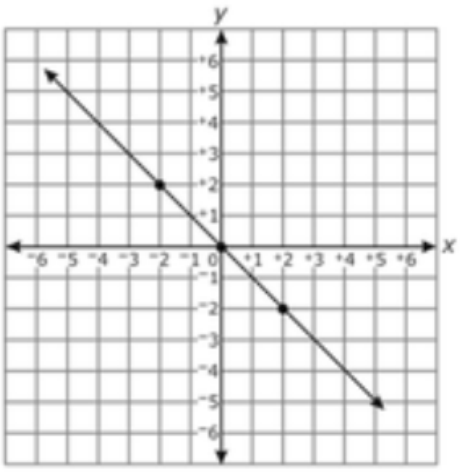
A. $y = 2/3\ x$ B. $y = 3/2\ x$
C. $y = 9x$ D. $y = 18x$

2. Which equation represents the proportional relationship in the table?

x	y
$^-2$	$^-7$
$^-4$	$^-14$
$^-6$	$^-21$
$^-8$	$^-28$

A. $y = 3.5x$ B. $y = -3.5x$
C. $y = x - 5$ D. $y = x + 5$

3. What is the constant of proportionality for the graph to the right?



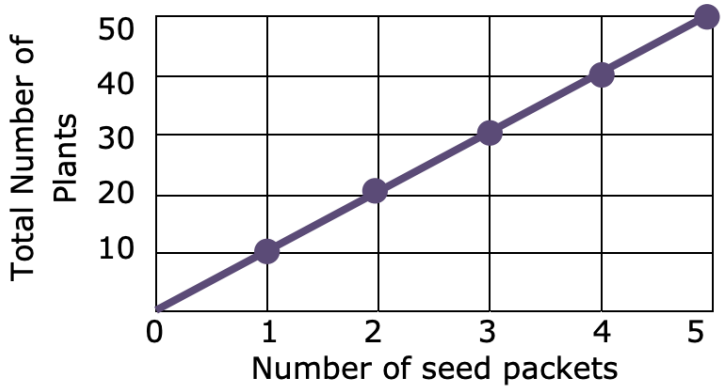
Part 3: Practice

Directions: Solve the questions in each exercise. Show your work to the side of each problem.

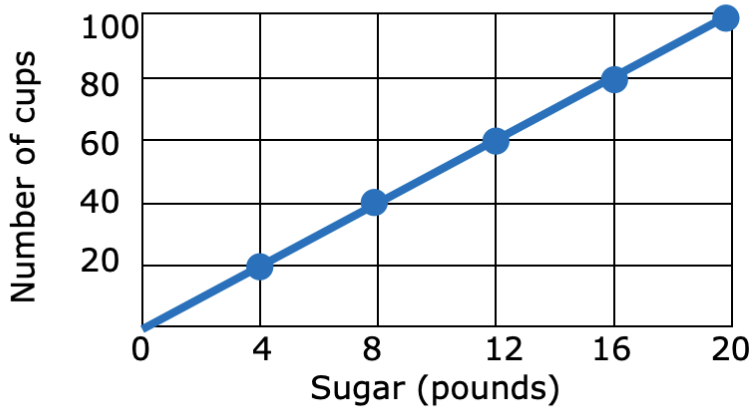
Supplemental Videos: Type in your browser:
https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-graphs-proportions/v/identifying-proportional-relationships-visually

Exercise 1:

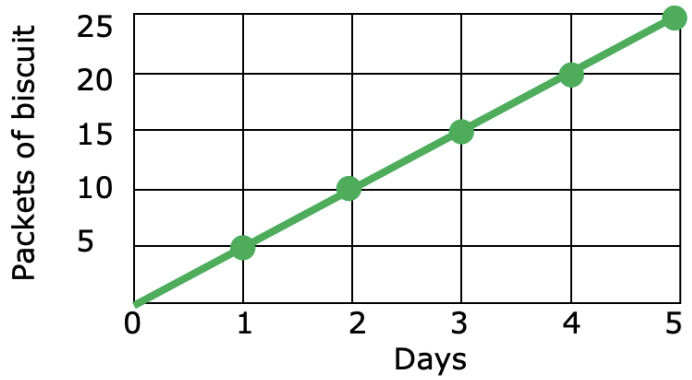
1. The graph below represents the total number of plants and number of seed packets used. What is the constant of proportionality?



2. The graph below represents the total number of cups of coffee and the total amount of sugar required to make the coffee. What is the constant of proportionality?



3. The graph below represents the packets of biscuits consumed over time. What is the constant of proportionality?



Exercise 2: Read the task and answer the question about the task below

The price of a gallon of apple cider is $7.00. The price of eight 4.23-ounce juice boxes is $2.39.

a. Suppose the juice was instead packaged like the cider. Approximately what is the cost per gallon of the juice?

b. Peter wants to have at least a gallon of either only cider or only juice. Which product is the better deal?

c. State the unit rate(s) you used to compare the cost of cider versus juice in your answer to Question b.

Part 4: Reflection & Brain Growth

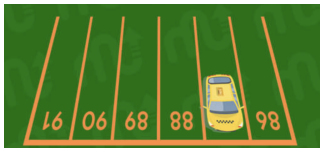
After **completing your work**, what questions do you may have for your teacher?

Week 3: Day 4

Today's Goal: *I can write an equation to describe a proportional relationship in a real-world context.*

Part 1: Warm-up

1. **Riddle of the day:** What is the number of the parking space containing the car?



2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

Directions: Solve for X. Do the numbers in the table represent a proportional relationship? Explain your thinking below.

Distance (km)	Time (In Hours)
4	24
6	x
8	48
10	60

_____

_____

Part 3: Practice

Directions: Read the task below and answer the questions for a-c.

Exercise 1: Read the task below and answer the questions about the task.

In January, Andre signed up for a membership at Planet Fitness. The plan he chose cost **$95** in start-up fees and then **$20 per month** starting in February. Edwin also signed up at Anytime Fitness in January. His plan cost **$35 per month** starting in February, and his start-up fees were waived.

a.) Create tables for both Georgia and Edwin that compare the number of months since January to the total cost of their gym memberships. Continue this table for one year.

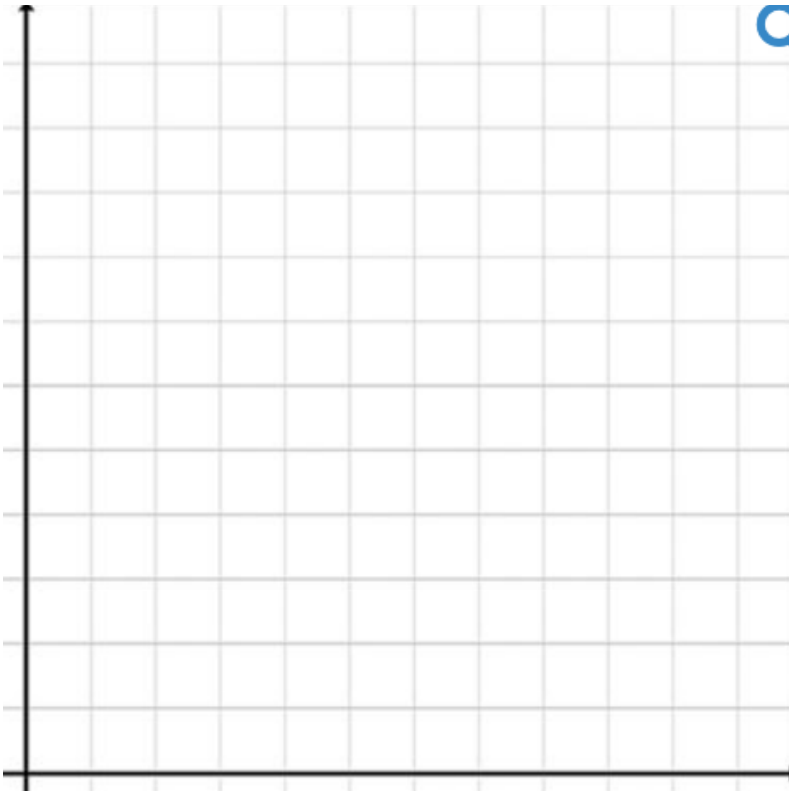
Andre's gym membership for 12 months

Number of months since January	0											11
Total cost of Andre's gym membership	$95											

Edwin's gym membership cost for 12 months

Number of months since January	0											11
Total cost of Andre's gym membership	0											

b.) Plot the points from the two tables in part (a) on a coordinate plane.



c.) Decide if either or both gym memberships are described by a proportional relationship, and write an equation representing any such relationship. Explain how parts (a) and (b) could be used to support your answer.

_____

_____

_____

Part 4: Reflection & Brain Growth

After talking with your teacher in zoom or on the phone about **what you learned,** what are some skills or concepts you now more clearly understand? Why?

Week 3: Day 5

Today's Goal: *I can describe what each point means on the graph of a proportional relationship.*

Part 1: Warm-up

1. **Riddle of the day:** What happens once in a lifetime, twice in a moment, but never in one hundred years?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

Directions: Review your vocabulary terms on your vocabulary list from the April Learning Packet. Use that to answer the questions below.

1) A_____ is a statement that two ratios are equal.

   A. Ratio
   B. Rate
   C. Proportion
   D. Fraction

2) The _____ is a comparison of two amounts with different units of measure.

   A. Ratio
   B. Rate
   C. Proportion
   D. Unit Rate

3) Martin writes the following statement in class.

   $3 : 5$

   Which term best describes Martin's statement?

   A. Ratio
   B. Rate
   C. Proportion
   D. Unit Rate

4) Which of the following shows a unit rate?
   A. Melissa traveled 34 miles in 2 hrs.
   B. John bought some apples on sale for $2/pound
   C. Luz writes the ratio $\frac{1}{3}$
   D. Two dog years equal 14 human years.

Part 3: Practice

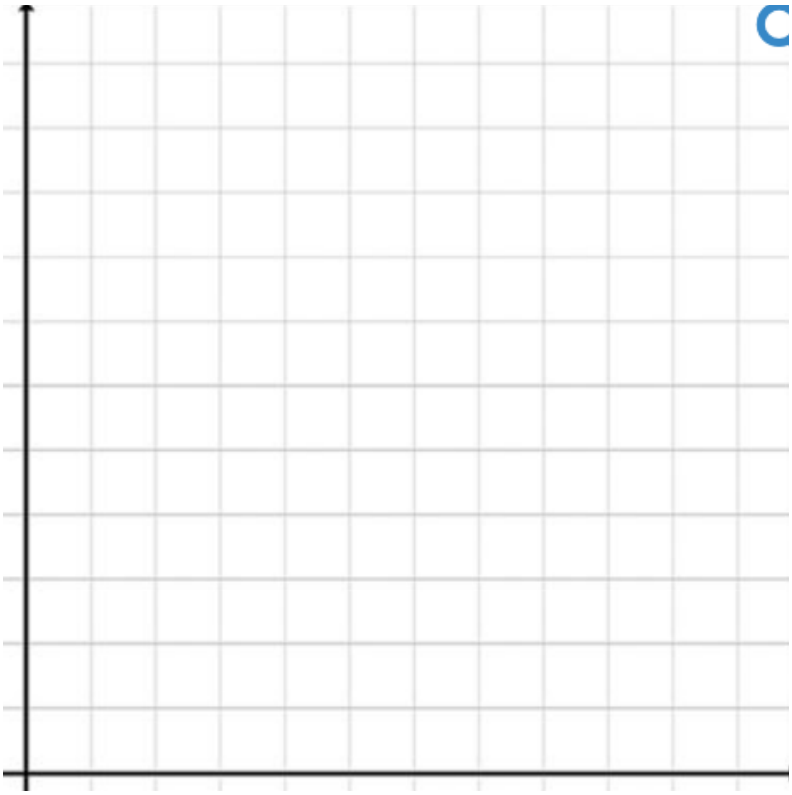
Directions: Solve each question for exercise 1 and 2 in the space provided.

Exercise 1:

Coffee cost $18.96 for three pounds.

a.) What is the cost for one pound of coffee?

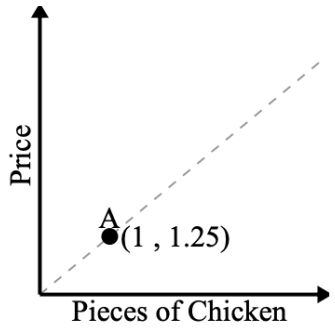
b.) At this store, the price for a pound of coffee is the same no matter how many pounds you buy. Let x be the number of pounds of coffee and y be the total cost of x pounds. Draw a graph of the relationship between the number of pounds of coffee and the total cost.



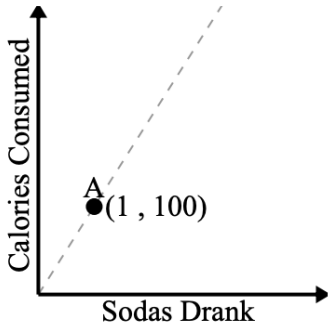
c.) Where can you see the cost per pound of coffee in the graph? What are the coordinates?

Exercise 2: Determine what the value of A means in each problem.

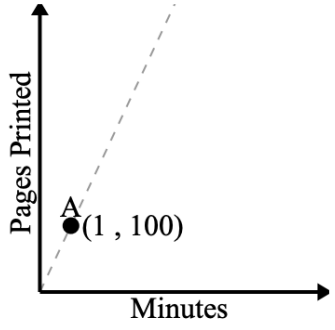
1)



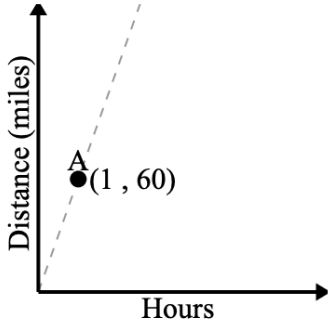
2)



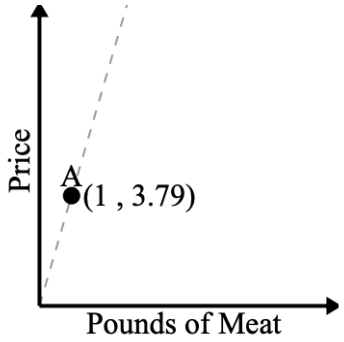
3)



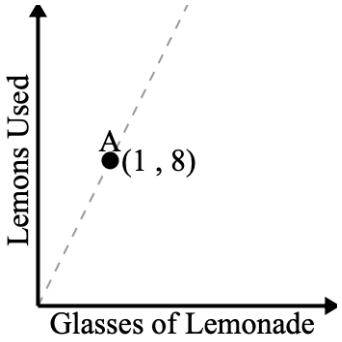
4)



5)



6)



Week 4: Day 1

Today's Goal: *I can graph a proportional relationship and interpret the slope.*

Part 1: Warm-up

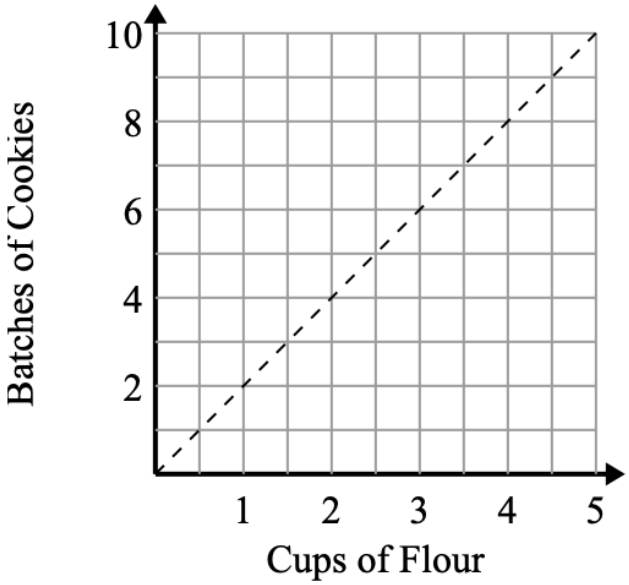
1. **Riddle of the day:** How many circles contain a black dot?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p. 5) in "Notes & Anchor Charts" section of this packet.

3. **Optional:** Choose from any of the "Activities & Games" in the April Packet to play with a family member or by yourself.

Part 2: Review

Directions: Determine which statements about the graph are true.



A. The point (3 , 1.5) shows that 1.5 cups of flour will make 3 batches of cookies.

B. The point (7 , 3.5) shows that 3.5 cups of flour will make 7 batches of cookies.

C. The point (3 , 6) shows that 3 cups of flour will make 6 batches of cookies.

D. The point (8 , 4) shows that 4 cups of flour will make 8 batches of cookies.

Part 3: Practice

Directions: View the supplemental video to support your practice. Answer the questions for exercise 1 and 2 in the space provided.

Supplemental Videos: Type in your browser: **https://www.youtube.com/watch?v=QNQfSFRAkbE**

Exercise 1: Create equations in slope intercept form (y=mx+b) to model Terri's phone bill

"Terri pays a monthly cell phone fee of 10 dollars. She pays 5 cents per minute of talking use"

1. Describe any 4 instances for this scenario. Include the instance when Terri does not make any calls. Ex. If Terry speaks for ? minutes her monthly bill would be ? dollars.

2. Write these four instances as ordered pairs (x, y), graph them on a coordinate plane and connect to form a line.

3. Determine the slope of the line

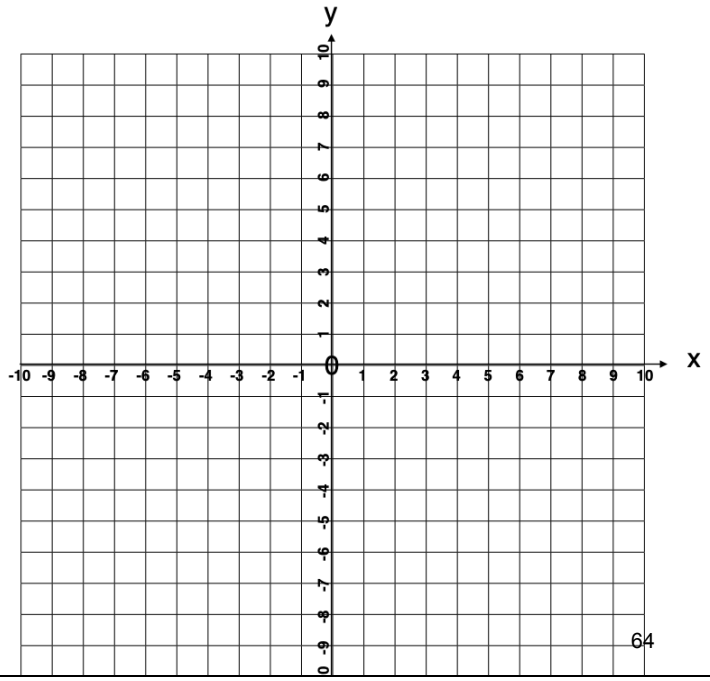
4. State the coordinates of the y intercept. Why is this point important?

5. Write the equation that represents Terri's monthly bill. In the slope intercept form $y = mx + b$, m is the slope of the line and b is the y intercept.

1

3

2



4
5

Exercise 2:
Lena paid $18.96 for 3 pounds of coffee.

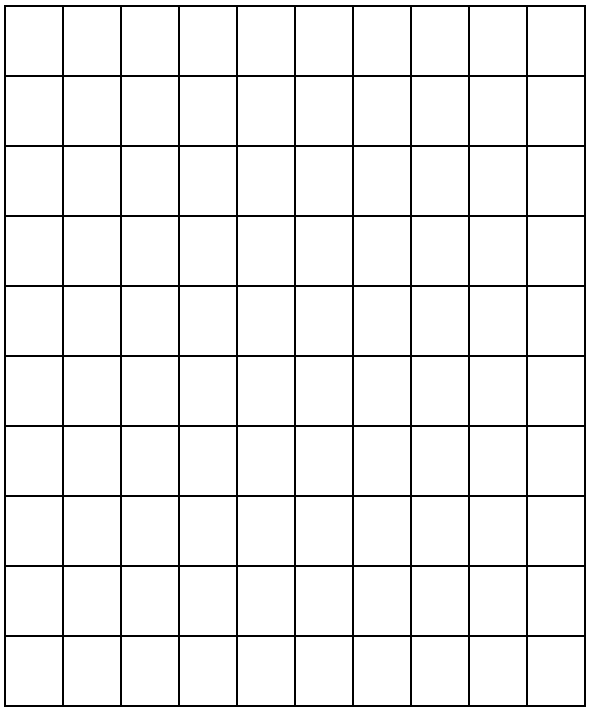
a. What is the cost per pound (unit rate) for this coffee?

The cost per pound of this coffee is _____.

b. How many pounds of coffee could she buy for $1.00?

Lena could buy _____ of a _____ of coffee for $1.00.

c. Draw a graph in the coordinate plane of the relationship between the number of pounds of coffee and the total cost.



d. In this situation, what is the meaning of the slope of the line you drew in part (c)?

_____

_____

_____.

Part 4: Reflection & Brain Growth

1. After **completing your work**, what questions do you may have for your teacher?

2. After talking with your teacher in zoom or on the phone about **what you learned,** what are some skills or concepts you now more clearly understand? Why?

Week 4: Day 2

Today's Goal: *I can compare two different proportional relationships in real-world contexts.*

Part 1: Warm-up

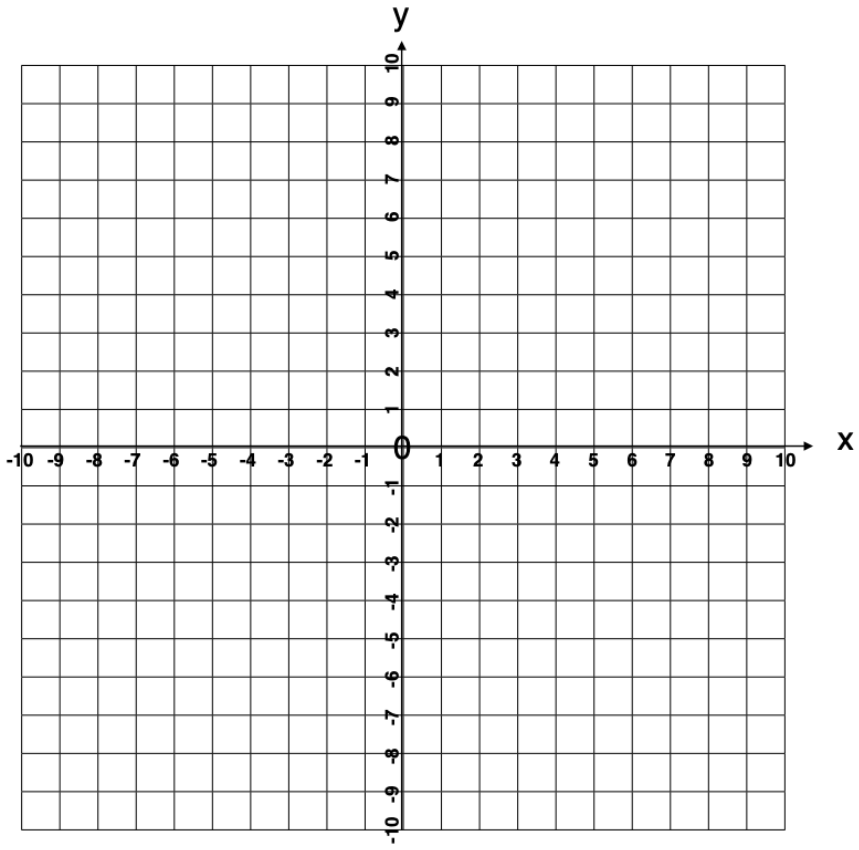
1. **Riddle of the day:** Where can you find cities, towns, shops, and streets but no people?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

Part 2: Review

The table shows how much money Marvin earned while helping his mother with yard work one weekend. Use the data to make a graph. Find the slope of the line and explain what it shows.

Time (h)	Money Earned
3	$15
5	$25
7	$35
9	$45



Part 3: Practice

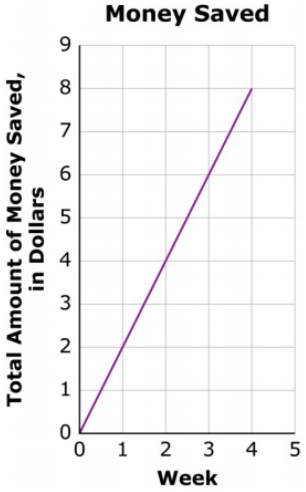
Directions: Read the information below and use it to complete the sentences after the table. You can use the space in the table to show your work.

Exercise 1:

Three students saved money for four weeks.

- Antwan made the graph below to show how much money he saved.
- Carla made the table below to show how much money she saved.
- Omar wrote the equation below to show how much he saved. In the equation, *s* is the total amount of money saved, in dollars, and *w* is the number of weeks.

Remember: Unit rate = slope = y/x

Antwan's Money Saved	Carla's Money Saved	Omar's Money Saved
		$s = 2.5w$

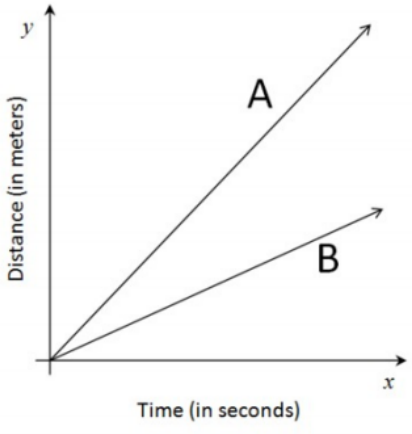
Week	Total Amount of Money Saved
1	$1.75
2	$3.50
3	$5.25
4	$7.00

Identify the student who saved the greatest amount of money each week and the student who saved the least amount of money each week.

_____ saved the **greatest amount** of money each week

_____ saved the **least amount** of money each week

Exercise 2:
The graphs below show the distance two cars have traveled along the freeway over a period of several seconds. Car A is traveling 30 meters per second.



Which equation from those shown below is the best choice for describing the distance traveled by car B after seconds? Explain.

a. $y = 85x$
b. $y = 60x$
c. $y = 30x$
d. $y = 15x$

The evidence I have to support my answer is _____
_____
_____.

Part 4: Reflection & Brain Growth

1. After **completing your work**, what questions do you may have for your teacher?

2. After talking with your teacher in zoom or on the phone about **what you learned,** what are some skills or concepts you now more clearly understand? Why?

Week 4: Day 3

Today's Goal: *I can compare two proportional relationships in real-world contexts.*

Part 1: Warm-up

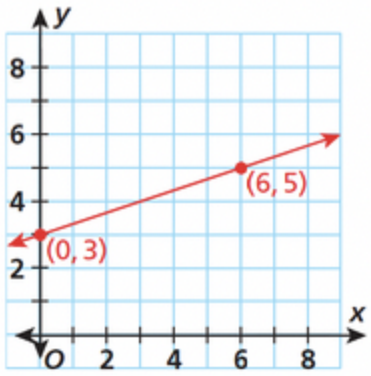
1. **Riddle of the day:** Mr. Blue lives in the Blue house. Mrs. Yellow lives in the Yellow House. Mr. Orange lives in the orange house. Who lives in the White House?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p. 5) in "Notes & Anchor Charts" section of this packet.

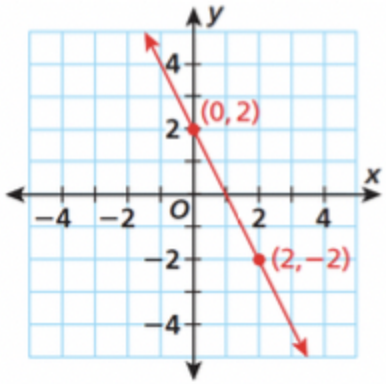
Part 2: Review

Directions: Find the slope of each line.

1.)



2.)



Part 3: Practice

Directions: Answer each question in exercise 1 and 2 in the space provided.

Exercise 1:

Jumel and Ashley have two of the most popular phones on the market, a Droid and an iPhone. Jumel's monthly cell phone plan is shown below, where *c* stands for the cost in dollars, and *t* stands for the number of texts sent each month.

Jumel: c = 60 + 0.05t

Ashley's plan costs $.35 per text, in addition to a monthly fee of $45.

a. Whose plan, Jumel's or Ashley's, costs less if each of them sends 30 texts in a month? Explain how you determined your answer.

_____

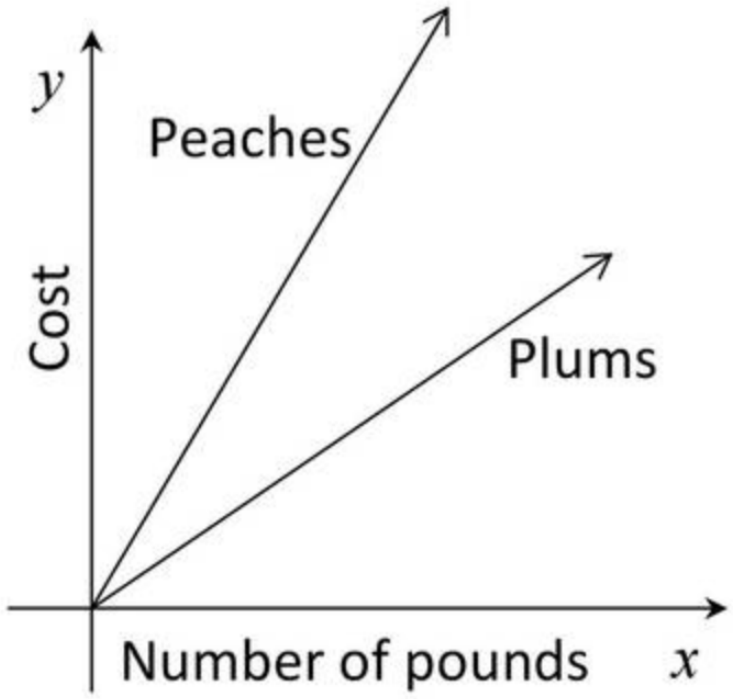
b. How much will Ashley's plan cost for the same number of texts as when Jumel's costs $75.00?

_____

c. Explain in writing how you know if there is a number of texts for which both plans cost the same amount.

_____

Exercise 2:
The graphs below show the cost y of buying x pounds of fruit. One graph shows the cost of buying x pounds of peaches, and the other shows the cost of buying x pounds of plums.



a. Which kind of fruit costs more per pound?

Explain._____

_____

b. Bananas cost less per pound than peaches or plums. Draw a line alongside the other graphs that might represent the cost y of buying x pounds of bananas.

Week 4 Day 4

Today's Goal: *I can use what I've learned during distance learning and the year to reflect on my math journey as a scholar.*

Part 1: Warm-up

1. **Riddle of the day:** What has to be broken before you can use it?

2. Log into Edmentum: Work on your learning path for 15 minutes and show work on a seperate piece of paper. See the template (p.5) in "Notes & Anchor Charts" section of this packet.

3. **Optional:** Choose from any of the "Activities & Games" in the April Packet to play with a family member or by yourself.

Part 2: Review

Directions: Go back through your "Notes & Anchor charts", "Vocabulary List" and "Daily Learning Calendar" from April and May packets. Fill in the chart below with the content from reviewing these past two packets.

A skill, or concept, I learned since "Distance Learning" started	A skill, or concept, I grew stronger in since "Distance Learning" started	A skill, or concept, I wish I had more time with during "Distance Learning".

Part 3: Practice, Reflection & Brain Growth

Directions: Reflect on your school year and write your thoughts below.

1. What is something we did this year that you think you will remember for the rest of your life?

2. What is something you accomplished in Math this year that you are proud of?

3. What was the nicest thing someone in our class did for you this year?

4. What was the most challenging part of this year for you?

5. What are the three most important things you learned in Math this year?

6. What is something that was hard in Math for you at the start of the year but is easy now?

7. In what area do you feel you made your biggest improvements in Math?

8. What is something you taught your teacher or classmates this year?

9. What person at our school has made the biggest impact in your life this year? Why?

10. What is something the teacher could have done to make this year better?

11. Knowing what you know now, if you could write a letter to yourself that would travel back in time so that you would receive it at the start of the school year, what advice would you give your younger self?

12. What advice would you give students who will be in this class next year?