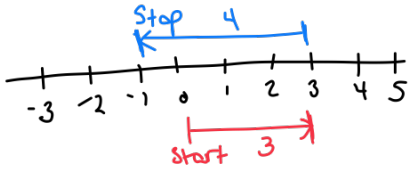
Intro to college math: Chapter 1.3
Adding with Integers

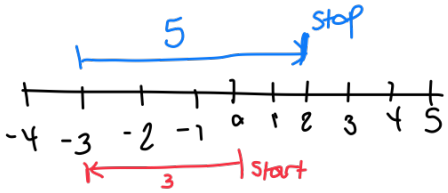
* When adding positive and negative numbers, think of a number line:

ex.)



$3-4=\boxed{-1}$

ex.)



$-3+5=\boxed{2}$

* When adding 2 number with the same sign — add the numbers together, and if they are both positive then the answer is positive; if the are both negative, then the answer is negative.

ex.) $3+6=9$ ex.) $-3+(-6)=-9$

* When adding 2 numbers with different signs — subtract the smaller number from the larger number and then give it the sign of the larger number.

ex.) $3-6=\boxed{-3}$ ex.) $(-5)+9=\boxed{4}$

* Orders of operations:

P - parenthesis 1st
E - exponents 2nd
M
D > multiply + divide from left to right
A
S > add + subtract from left to right.

1. Work the following problem.

$4+(-12)$

$4+(-12)=\boxed{-8}$

* Since adding numbers with different signs, we subtract + then take sign of bigger number.

Can type into calculator:

① Enter number
② press [+] button
③ press [(] button
④ press [(-)] button
⑤ enter number
⑥ press [)] button
⑦ press enter

2. Work the following problem.

$-17+7=$

$-17+7=$ **-10**

* Since adding numbers with different signs, we subtract + then take sign of bigger number.

Can type into calculator:

1. Press (-) button
2. Enter number
3. Press + button
4. Enter number
5. Press enter

3. Work the following problem.

$-8+(-8)=$

$-8+(-8)=$ **-16**

• Since adding numbers with the same sign, we add the number together + take the sign of the numbers.

Can type into calculator:

1. Press (-) button
2. Enter number
3. Press + button
4. Press (button
5. Press (-) button
6. Enter number
7. Press) button
8. Press enter

4. Work the following problem using the rule for addition of real numbers.

$2 + (-3) + (-6)$

Can type into calculator

$2 + (-3) + (-6) =$

$-1 + (-6) = \boxed{-7}$

* Using orders of operations, since everything is add or subtract, go left to right doing what it says.

5. Work the following problem using the rule for addition of real numbers.

$16 + [10 + (-8)] + (-14)$

$16 + [10 + (-8)] + (-14)$ ← Do what's in brackets 1st

$16 + [2] + (-14)$ ← then add/subtract left to right

$18 + (-14) = \boxed{4}$

* Can type into calculator.
  - Use [and] for brackets as well as parenthesis

6. Work the following problem using the rule for addition of real numbers.

$[17 + (-3)] + [9 + (-6)] =$

$[17 + (-3)] + [9 + (-6)] =$ ← do what's in brackets 1st

$[14] + [9 + (-6)]$

$[14] + [3] = 17$ ← then add or subtract left to right

* you can type it all into calculator.

7. Work the following problem using the rule for addition of real numbers.

$10 + (-2) + [12 + (-9)] =$

$10 + (-2) + [12 + (-9)]$ ← do what's in brackets 1st

$10 + (-2) + [3]$ ← then add | subtract from left to right

$8 + [3] = 11$

* you can type it all into calculator.