

**Instructions:** Cut out each card and match up the equivalent fraction, decimal and percentages.

Converting Fractions, Decimals and Percentages

25%

Converting Fractions, Decimals and Percentages

$\frac{45}{75}$

Converting Fractions, Decimals and Percentages

0.125

Converting Fractions, Decimals and Percentages

$\frac{51}{204}$

Converting Fractions, Decimals and Percentages

0.20

Converting Fractions, Decimals and Percentages

2%

Converting Fractions, Decimals and Percentages

0.60

Converting Fractions, Decimals and Percentages

100%

Converting Fractions, Decimals and Percentages

$\frac{4}{16}$

Converting Fractions, Decimals and Percentages

0.25

Converting Fractions, Decimals and Percentages

$\frac{5}{8}$

Converting Fractions, Decimals and Percentages

35%

Converting Fractions, Decimals and Percentages

62.5%

Converting Fractions, Decimals and Percentages

0.25

Converting Fractions, Decimals and Percentages

$\frac{1}{1}$

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Converting Fractions, Decimals and Percentages

$\frac{57}{152}$

Converting Fractions, Decimals and Percentages

60%

Converting Fractions, Decimals and Percentages

0.625

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Converting Fractions, Decimals and Percentages

0.35

Converting Fractions, Decimals and Percentages

$\frac{7}{20}$

Converting Fractions, Decimals and Percentages

20%

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Converting Fractions, Decimals and Percentages

$\frac{17}{85}$

Converting Fractions, Decimals and Percentages

37.5%

Converting Fractions, Decimals and Percentages

0.02

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Converting Fractions, Decimals and Percentages

12.5%

Converting Fractions, Decimals and Percentages

$\frac{36}{288}$

Converting Fractions, Decimals and Percentages

0.375

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Converting Fractions, Decimals and Percentages

1

Converting Fractions, Decimals and Percentages

25%

Converting Fractions, Decimals and Percentages

$\frac{1}{50}$

# Converting Fractions, Decimals and Percentages **Answers**

$\frac{1}{1}$	1	100%
$\frac{5}{8}$	0.625	62.5%
$\frac{4}{16}$	0.25	25%
$\frac{51}{204}$	0.25	25%
$\frac{7}{20}$	0.35	35%
$\frac{57}{152}$	0.375	37.5%
$\frac{1}{50}$	0.02	2%
$\frac{45}{75}$	0.60	60%
$\frac{17}{85}$	0.20	20%
$\frac{36}{288}$	0.125	12.5%

**Instructions:** Cut out each card and match up the equivalent fraction, decimal and percentages.

Converting Fractions, Decimals and Percentages

0.75

Converting Fractions, Decimals and Percentages

10%

Converting Fractions, Decimals and Percentages

$\frac{1}{4}$

Converting Fractions, Decimals and Percentages

25%

Converting Fractions, Decimals and Percentages

$\frac{3}{5}$

Converting Fractions, Decimals and Percentages

0.25

Converting Fractions, Decimals and Percentages

$\frac{2}{8}$

Converting Fractions, Decimals and Percentages

0.10

Converting Fractions, Decimals and Percentages

75%

Converting Fractions, Decimals and Percentages

12.5%

Converting Fractions, Decimals and Percentages

0.30

Converting Fractions, Decimals and Percentages

$\frac{1}{10}$

Converting Fractions, Decimals and Percentages

$\frac{1}{8}$

Converting Fractions, Decimals and Percentages

40%

Converting Fractions, Decimals and Percentages

0.02

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Converting Fractions, Decimals and Percentages

0.25

Converting Fractions, Decimals and Percentages

$\frac{2}{5}$

Converting Fractions, Decimals and Percentages

30%

twinkl.com

Converting Fractions, Decimals and Percentages

$\frac{1}{50}$

Converting Fractions, Decimals and Percentages

0.60

Converting Fractions, Decimals and Percentages

25%

twinkl.com

Converting Fractions, Decimals and Percentages

2%

Converting Fractions, Decimals and Percentages

0.125

Converting Fractions, Decimals and Percentages

$\frac{3}{4}$

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Converting Fractions, Decimals and Percentages

$\frac{2}{20}$

Converting Fractions, Decimals and Percentages

10%

Converting Fractions, Decimals and Percentages

0.40

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Converting Fractions, Decimals and Percentages

0.10

Converting Fractions, Decimals and Percentages

$\frac{3}{10}$

Converting Fractions, Decimals and Percentages

60%

# Converting Fractions, Decimals and Percentages **Answers**

$\frac{2}{5}$	0.40	40%
$\frac{2}{8}$	0.25	25%
$\frac{1}{4}$	0.25	25%
$\frac{1}{10}$	0.10	10%
$\frac{2}{20}$	0.10	10%
$\frac{3}{4}$	0.75	75%
$\frac{1}{50}$	0.02	2%
$\frac{3}{5}$	0.60	60%
$\frac{3}{10}$	0.30	30%
$\frac{1}{8}$	0.125	12.5%

**Instructions:** Cut out each card and match up the equivalent fraction, decimal and percentages.

Converting Fractions, Decimals and Percentages

0.25

Converting Fractions, Decimals and Percentages

2%

Converting Fractions, Decimals and Percentages

0.10

Converting Fractions, Decimals and Percentages

40%

Converting Fractions, Decimals and Percentages

0.75

Converting Fractions, Decimals and Percentages

$\frac{7}{20}$

Converting Fractions, Decimals and Percentages

12.5%

Converting Fractions, Decimals and Percentages

$\frac{3}{8}$

Converting Fractions, Decimals and Percentages

0.375

Converting Fractions, Decimals and Percentages

0.35

Converting Fractions, Decimals and Percentages

60%

Converting Fractions, Decimals and Percentages

$\frac{1}{10}$

Converting Fractions, Decimals and Percentages

10%

Converting Fractions, Decimals and Percentages

$\frac{1}{8}$

Converting Fractions, Decimals and Percentages

37.5%

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Converting Fractions, Decimals and Percentages

0.40

Converting Fractions, Decimals and Percentages

35%

Converting Fractions, Decimals and Percentages

$\frac{2}{5}$

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Converting Fractions, Decimals and Percentages

$\frac{4}{16}$

Converting Fractions, Decimals and Percentages

25%

Converting Fractions, Decimals and Percentages

0.60

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Converting Fractions, Decimals and Percentages

32%

Converting Fractions, Decimals and Percentages

0.02

Converting Fractions, Decimals and Percentages

$\frac{1}{50}$

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Converting Fractions, Decimals and Percentages

$\frac{80}{250}$

Converting Fractions, Decimals and Percentages

$\frac{3}{4}$

Converting Fractions, Decimals and Percentages

0.125

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Converting Fractions, Decimals and Percentages

0.32

Converting Fractions, Decimals and Percentages

$\frac{45}{75}$

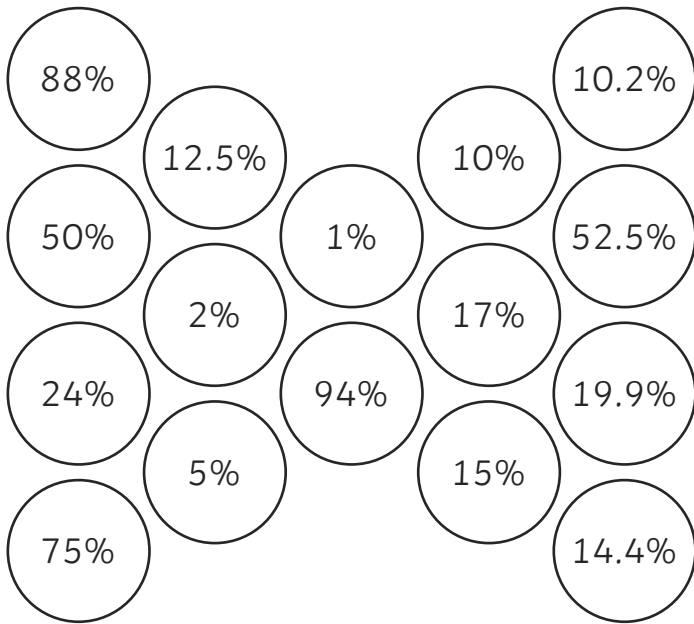
Converting Fractions, Decimals and Percentages

75%

# Converting Fractions, Decimals and Percentages **Answers**

$\frac{2}{5}$	0.40	40%
$\frac{3}{8}$	0.375	37.5%
$\frac{4}{16}$	0.25	25%
$\frac{1}{10}$	0.10	10%
$\frac{7}{20}$	0.35	35%
$\frac{3}{4}$	0.75	75%
$\frac{1}{50}$	0.02	2%
$\frac{45}{75}$	0.60	60%
$\frac{80}{250}$	0.32	32%
$\frac{1}{8}$	0.125	12.5%

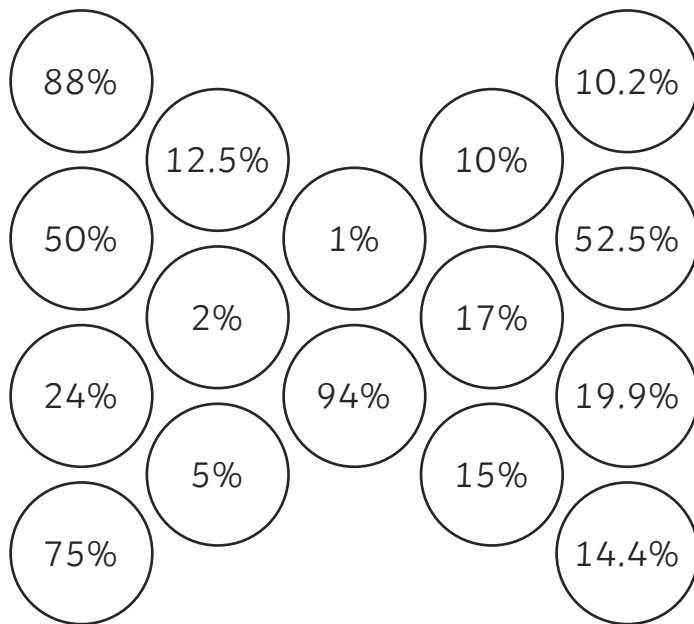
# Conversion Grid



0.88	0.10	0.075	0.01
0.94	0.50	0.05	0.001
0.24	0.17	1.25	0.144
0.75	0.904	0.02	0.102
0.525	0.125	0.199	0.15

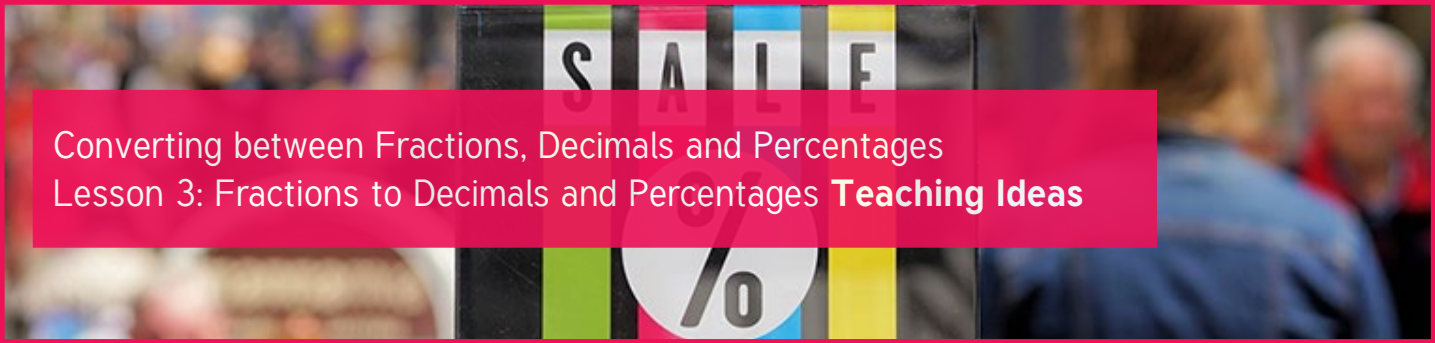
Answer: \_\_\_\_\_

# Conversion Grid



0.88	0.10	0.075	0.01
0.94	0.50	0.05	0.001
0.24	0.17	1.25	0.144
0.75	0.904	0.02	0.102
0.525	0.125	0.199	0.15

Answer: \_\_\_\_\_



## Converting between Fractions, Decimals and Percentages

### Lesson 3: Fractions to Decimals and Percentages Teaching Ideas

**Learning Objective:** To develop an understanding of how to convert fractions to decimals and fractions to percentages.  
**Targeting Assessment Objective:** AO1

**Success Criteria:**

- To divide numbers using the bus stop method.
- To convert a fraction to a decimal.
- To convert a fraction to a percentage.

**Context:** This lesson focuses on converting fractions to decimals and then fractions to percentages. Pupils will need a good understanding of how to use the bus stop method for division as well as how to multiply numbers by 100.

### Starter

Students are required to convert each percentage to a decimal. As they convert the percentages, they cross off the answer on the **Conversion Grid**. At the end of the task, there will be 4 decimals left unshaded; students should add them together to reveal a final answer of 2.230 (2.23). This will provide a great opportunity to assess students' understanding of converting percentages to decimals. Address any misconceptions which may arise, for example 75% is equivalent to 0.75 and not 0.075, as we divide by 100.

### Main Activities

#### Converting Fractions to Decimals

This sequence of slides explains how to convert fractions to decimals by using the bus stop method. On the first two slides, emphasise the decimal point and subsequent zeros to help pupils complete the division. Students should have a confident understanding of this from prior learning, but the skill should be reinforced to ensure an accurate answer.

The next slide provides a chance for students to practise what they've gone through so far. Answers can be revealed one step at a time, allowing you to ask for suggestions to ensure students have a thorough understanding before moving on.

#### F.D.P Grid

Students can use this grid to help them remember how to convert between fractions, decimals and percentages and it is something that can be added to in subsequent lessons. You may wish for students to copy this down into their books, or to save time, you could use the **F.D.P Grids**. Students can add to this if they have been used in a previous lesson.

#### Converting Fractions to Percentages

This sequence of slides follows the same format as those mentioned previously. After the steps for the bus stop method have been shown, display the 'pause for thought' question to encourage pupils to draw on prior learning: that to convert a decimal to a percentage, we can multiply the decimal by 100. You may wish to use the final slide in the sequence to check for students' understanding.

#### F.D.P Grid

This can be used in the same way as earlier in the lesson.



## Your Turn

There are two activities available for students to complete: [Converting Fractions, Decimals and Percentages Card Sort](#) (which are differentiated for lower, middle and higher) and, as an extension, a [Problem-Solving Maze](#). The maze will affirm students' understanding of converting, confidently and accurately, from fractions to decimals and fractions to percentages.

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## Plenary

### What Order?

The plenary presents a question in line with what students may find on an exam to ensure that the lesson's content is put into context. You may wish to simply present this to students to answer individually or you could ask students to discuss their approach in pairs or small groups followed by using the steps on the final slide to discuss the answer. Ensure that you emphasise the importance of using the original units in the final answer.

Converting between Fractions, Decimals and Percentages

# Lesson 3: Converting Fractions to Decimals and Percentages



# Learning Objective

To develop an understanding of how to convert fractions to decimals and percentages.

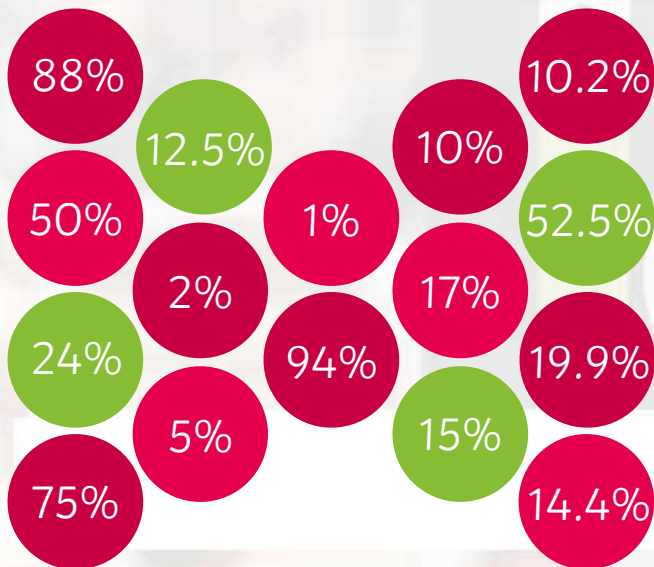
Targeting Assessment Objective: A01

# Success Criteria

- To divide numbers using the bus stop method.
- To convert a fraction to a decimal.
- To convert a fraction to a percentage.

# Conversion Grid

Convert each percentage to a decimal and cross off the answer on the grid. There will be 4 decimals at the end which will not have been crossed off. Add these together to find the final answer.



<del>0.88</del>	<del>0.10</del>	0.075	<del>0.01</del>
<del>0.94</del>	<del>0.50</del>	<del>0.05</del>	0.001
<del>0.24</del>	<del>0.17</del>	1.25	<del>0.144</del>
<del>0.75</del>	0.904	<del>0.02</del>	<del>0.102</del>
<del>0.525</del>	<del>0.125</del>	<del>0.199</del>	<del>0.15</del>

**Answer:**  $0.904 + 0.075 + 0.001 + 1.25 = 2.23$

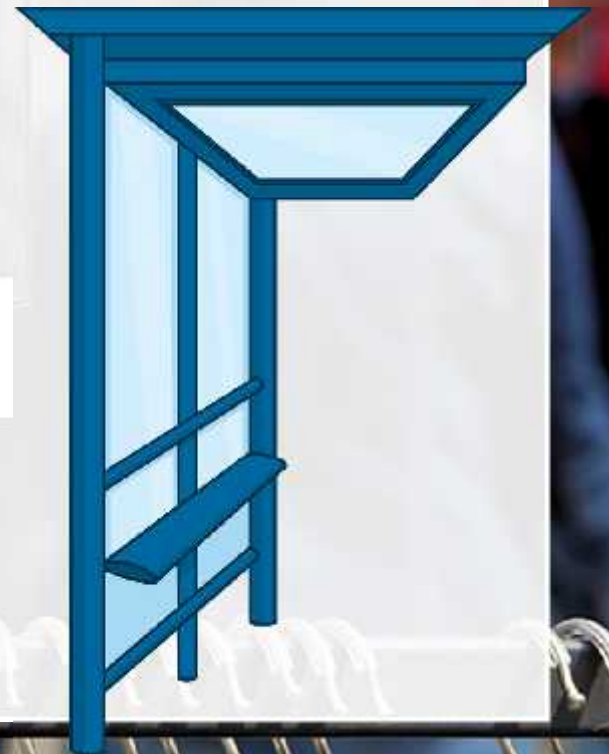
# Converting Fractions to Decimals

To convert a fraction to decimal, we divide the numerator by the denominator.

Convert  $\frac{3}{4}$  to a decimal = 0.75

1. Divide the numerator by the denominator:  $3 \div 4$
2. Use the bus stop method to calculate the answer:

$$\begin{array}{r} 0.75 \\ 4 \overline{) 3.00} \end{array}$$



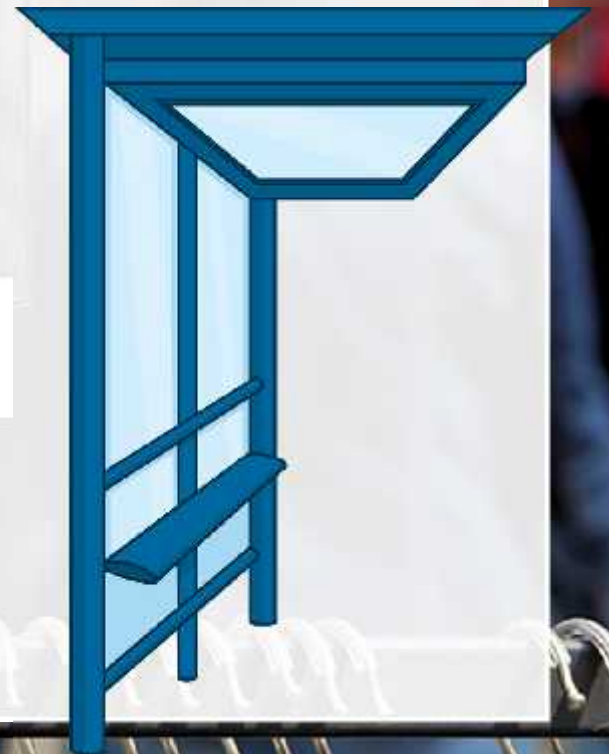
# Converting Fractions to Decimals

To convert a fraction to decimal, we divide the numerator by the denominator.

Convert  $\frac{2}{5}$  to a decimal = 0.4

1. Divide the numerator by the denominator:  $2 \div 5$
2. Use the bus stop method to calculate the answer:

$$\begin{array}{r} 0.4 \\ 5 \overline{) 2.0} \end{array}$$



# Converting Fractions to Decimals



Convert each fraction to a decimal.

1.  $\frac{1}{5}$       0.2 or 0.20

2.  $\frac{1}{8}$       0.125

3.  $\frac{1}{4}$       0.25

4.  $\frac{2}{20}$       0.1 or 0.10

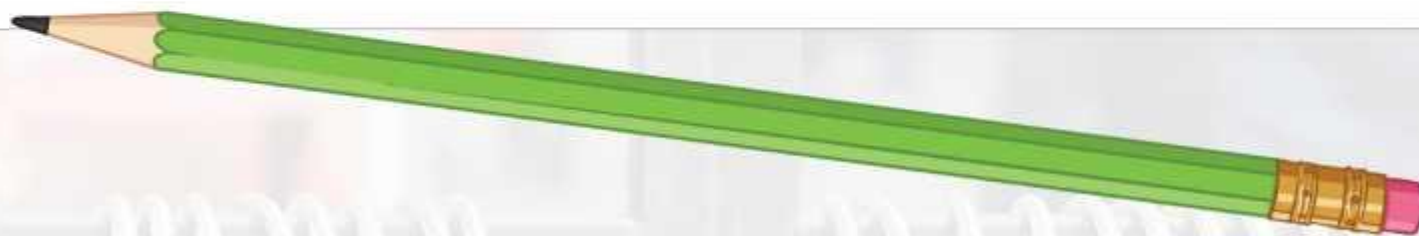
5.  $\frac{5}{8}$       0.625



# F.D.P. Grid

## F.D.P. Grid

		What we know		
		Fraction	Decimal	Percentage
What we want to find out	Fraction			
	Decimal	Divide numerator by denominator		Divide by 100
	Percentage		Multiply by 100	





# Converting Fractions to Percentages

To convert a fraction to a percentage, we must first convert the fraction to a decimal:

Convert  $\frac{3}{5}$  to a decimal = 60%

1. Divide the numerator by the denominator:  $3 \div 5$
2. Use the bus stop method to calculate the answer:

$$\begin{array}{r} 0.6 \\ 5 \overline{) 3.0} \end{array}$$

How do we convert a decimal to a percentage?

Multiply the decimal by 100.

$$0.6 \times 100 = 60$$



# Converting Fractions to Percentages

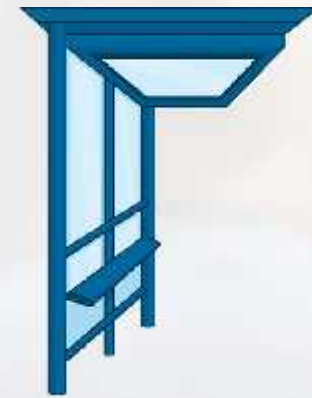
To convert a fraction to a percentage, we must first convert the fraction to a decimal:

Convert  $\frac{2}{8}$  to a decimal = 25%

1. Divide the numerator by the denominator:  $2 \div 8$
2. Use the bus stop method to calculate the answer:

$$\begin{array}{r} 0.25 \\ 8 \overline{) 2.200} \end{array}$$

3. Multiply the decimal by 100.  $0.25 \times 100 = 25$



# Converting Fractions to Percentages



Convert each fraction to a percentage.

1.  $\frac{2}{5}$       40%

2.  $\frac{3}{12}$       25%

3.  $\frac{3}{4}$       75%

4.  $\frac{8}{20}$       40%

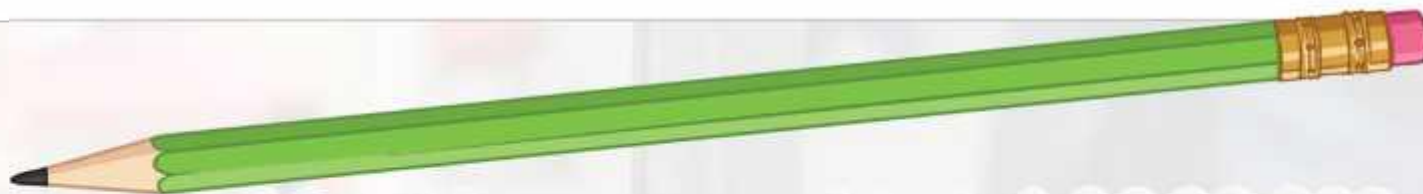
5.  $\frac{5}{25}$       20%



# F.D.P. Grid

## F.D.P. Grid

		What we know		
		Fraction	Decimal	Percentage
What we want to find out	Fraction			
	Decimal	Divide numerator by denominator		Divide by 100
	Percentage	Divide numerator by denominator then multiply by 100	Multiply by 100	



# Your Turn

**Instructions:** Cut out each card and match up the equivalent fraction, decimal and percentages.

0.75	10%	$\frac{1}{4}$
25%	$\frac{3}{5}$	0.25
$\frac{2}{8}$	0.10	75%
12.5%	0.30	$\frac{1}{10}$
$\frac{1}{8}$	40%	0.02
0.25	$\frac{2}{5}$	30%
$\frac{1}{50}$	0.60	25%
2%	0.125	$\frac{3}{4}$
$\frac{2}{20}$	10%	0.40
0.10	$\frac{3}{10}$	60%

### Problem-Solving Maze

**Instructions:** Find a way through the maze. You are only allowed to move to something that is equivalent. You may move left, right, up or down but not diagonally.

$\frac{1}{4}$	25%	$\frac{16}{64}$	0.16	16%
0.28	$\frac{4}{15}$	$\frac{5}{20}$	0.04	$\frac{1}{25}$
0.4	$\frac{1}{4}$	$\frac{20}{50}$	$\frac{14}{35}$	$\frac{14}{35}$
$\frac{5}{7}$	$\frac{15}{42}$	$\frac{18}{27}$	0.25	45%

START → END

# What Order?



Order the following from smallest to largest:

$$\frac{3}{12}$$

0.30

22%

$$\frac{2}{5}$$

28%



# What Order?



Order the following from smallest to largest:

$\frac{3}{12}$    0.30   22%    $\frac{2}{5}$    28%

First, you must convert them to the same unit, for example all percentages:

25%   30%   22%   40%   28%

Now, you are able to order them from smallest to largest:

22%   25%   28%   30%   40%

The last step is to use the original units in your final answer:

22%    $\frac{3}{12}$    28%   0.30    $\frac{2}{5}$





# F.D.P. Grid

		What we know		
What we want to find out		Fraction	Decimal	Percentage
	Fraction			
	Decimal			
	Percentage			

# F.D.P. Grid

		What we know		
What we want to find out		Fraction	Decimal	Percentage
	Fraction			
	Decimal			
	Percentage			


# F.D.P. Grid

		What we know		
What we want to find out		Fraction	Decimal	Percentage
	Fraction			
	Decimal			
	Percentage			


# Problem-Solving Maze

## Instructions

Find a way through the maze. You are only allowed to move to something that is equivalent. You may move left, right, up or down but not diagonally.

 START


$\frac{2}{8}$	25%	$\frac{16}{64}$	0.16	16%
0.28	$\frac{4}{16}$	$\frac{5}{20}$	0.04	$\frac{1}{40}$
0.4	$\frac{1}{4}$	$\frac{8}{24}$	$\frac{14}{100}$	$\frac{14}{56}$
$\frac{5}{7}$	$\frac{35}{140}$	$\frac{19}{76}$	0.25	25%

 END


# Problem-Solving Maze

## Instructions

Find a way through the maze. You are only allowed to move to something that is equivalent. You may move left, right, up or down but not diagonally.

 START

$\frac{2}{8}$	25%	$\frac{16}{64}$	0.16	16%
0.28	$\frac{4}{16}$	$\frac{5}{20}$	0.04	$\frac{1}{40}$
0.4	$\frac{1}{4}$	$\frac{8}{24}$	$\frac{14}{100}$	$\frac{14}{56}$
$\frac{5}{7}$	$\frac{35}{140}$	$\frac{19}{76}$	0.25	25%

 END

# Problem-Solving Maze Answers

## Instructions

Find a way through the maze. You are only allowed to move to something that is equivalent. You may move left, right, up or down but not diagonally.

