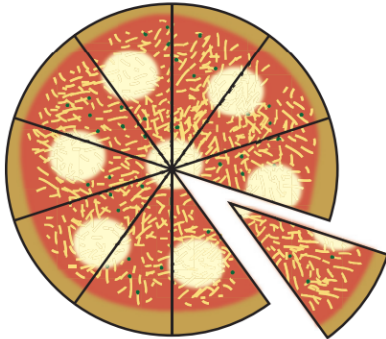# Topic 4 - Fractions

1 Rana, Penny and Joshua share a pizza.

Rana eats $\dfrac{2}{10}$ of the pizza.

Penny eats $\dfrac{4}{10}$ of the pizza.

Joshua eats $\dfrac{2}{5}$ of the pizza.

Which of these statements is/are correct?

1 They eat the whole pizza.

2 Joshua eats the least pizza.

3 Penny eats twice as much pizza as Joshua.

A statement 1 only

B statement 2 only

C statements 1 and 2 only

D statements 1 and 3 only

E statements 2 and 3 only

2

Which of these statements is/are correct?

X $\frac{3}{4} + \frac{3}{4}$ is more than $1\frac{1}{4}$

Y $1 - \frac{3}{8}$ is less than $\frac{3}{8}$

Z $\frac{1}{6}$ is more than $\frac{1}{10}$

A   statement Y only

B   statement Z only

C   statements X and Y only

D   statements X and Z only

E   statements Y and Z only

3

Finn, Gabriella and Hassan have some stickers.

Finn has 8 times as many stickers as Gabriella.

Hassan has $\frac{1}{2}$ as many stickers as Gabriella.

Finn has ☐ times as many stickers as Hassan.

What is the missing number in the sentence above?

A $\frac{1}{16}$

B $\frac{1}{4}$

C 4

D 12

E 16

4

Which of these numbers is closest to $\frac{7}{10}$?

A   0.072

B   0.705

C   0.68

D   0.069

E   0.73

5

Jack divides a white wall into equal sections.

He paints some sections purple, as shown.

Jack then paints $\frac{2}{5}$ of the whole wall yellow.

Finally, he paints the rest of the wall green.

How many sections does he paint green?

A 1

B 2

C 3

D 4

E 5

6

Andy, Bella and Carlo shared a chocolate bar.

Andy ate $\dfrac{1}{5}$ of the bar, Bella ate $\dfrac{2}{5}$ of the bar and Carlo ate the rest.

Which of the following statements are correct?

1   Carlo ate less than half of the chocolate bar.

2   Andy ate more than one quarter of the chocolate bar.

3   Andy and Bella ate less than three quarters of the chocolate bar altogether.

A   statement 1 only

B   statement 2 only

C   statement 3 only

D   statements 1 and 2 only

E   statements 1 and 3 only

7

Quoc bought 4 pizzas to share with Amina, Fred and Sally.

Amina ate $\frac{4}{5}$ of a pizza.

Fred ate $1\frac{1}{5}$ pizzas.

Sally ate $\frac{3}{5}$ of a pizza.

Quoc ate **all** of the pizza that was left.

How much **more** pizza did Quoc eat than Amina?

A $\frac{2}{5}$

B $\frac{3}{5}$

C $\frac{4}{5}$

D $1\frac{4}{5}$

E $2\frac{1}{5}$

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Answer Key

1	A
2	D
3	E
4	B
5	The wall has ten equal sections. Jack paints $\frac{2}{5}$ of the whole wall yellow; this is the same as $\frac{4}{10}$ so Jack paints 4 sections yellow. The diagram below shows $\frac{2}{5}$ and $\frac{4}{10}$ are equivalent: Jack paints 5 sections purple and 4 sections yellow. This leaves just one section to be painted green. So Jack paints 1 section green, and the correct answer is **A 1**.

6	Andy ate $\frac{1}{5}$ of the bar and Bella ate $\frac{2}{5}$ of the bar, so Carlo must have also eaten $\frac{2}{5}$ of the bar.

This number line shows the position of the relevant fractions:
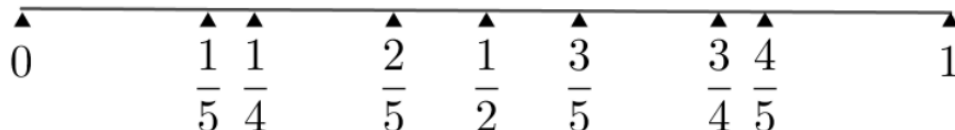
Checking each statement in turn:

1 *Carlo ate less than half of the chocolate bar.*
$\frac{2}{5}$ is less than one half, so statement 1 is correct.

2 *Andy ate more than one quarter of the chocolate bar.*
$\frac{1}{5}$ is less than one quarter, so statement 2 is not correct.

3 *Andy and Bella ate less than three quarters of the chocolate bar altogether.*
Together, Andy and Bella ate $\frac{3}{5}$ of the chocolate bar, so statement 3 is correct.

So the correct answer is **E statements 1 and 3 only** are correct.

7

Altogether, Amina, Fred and Sally ate $\frac{4}{5} + 1\frac{1}{5} + \frac{3}{5} = 2\frac{3}{5}$ pizzas. This leaves $1\frac{2}{5}$ for Quoc to eat, which is equivalent to $\frac{7}{5}$. So Quoc eats $\frac{7}{5} - \frac{4}{5} = \frac{3}{5}$ more pizza than Amina, and the correct answer is **B** $\frac{3}{5}$.

Alternatively, we could work it out by thinking about the number of slices. Imagine cutting each of the four pizzas into 5 slices, so there would be 4 × 5 = 20 slices altogether, with each slice being $\frac{1}{5}$ of a pizza.

Amina ate $\frac{4}{5}$ of a pizza, which is 4 slices.
Fred ate $1\frac{1}{5}$ of a pizza, which is 5 + 1 = 6 slices.
Sally ate $\frac{3}{5}$ of a pizza which is 3 slices.

Altogether they have eaten 13 out of 20 slices, leaving 7 slices for Quoc. This is 3 slices more than Amina ate, which is $\frac{3}{5}$ of a pizza.

We could also show this information using a diagram: