

# Week 1

## This week in a nutshell:

All topics this week have been seen before. They are all based around fundamental skills, and the questions contain ideas that will be useful in the coming weeks for fluency and success.

**Question 1:** Listing factors

**Question 2:** Expanding brackets

**Question 3:** Finding a percentage of an amount

**Question 4:** Tables of values (linear relationships)

**Question 5:** Writing ratios

The questions aim to develop and deepen understanding over the week. Due to the necessity of the topics covered this week, there is an emphasis on the interchangeability of command words, and language flexibility. It may be worth taking some extra time this week to make sure your students are developing their mathematical literacy.

## This week's ideas for class discussion include:

Question 1: **Listing factors**

- Is it possible to tell how many factors a number has without working them all out?

Question 2: **Expanding brackets**

- What is the distributive law?
- Why do you think expanding brackets is known as the distributive law?

Question 3: **Finding a percentage of an amount**

- Are fractions and percentages the same thing?

Question 4: **Tables of values (linear relationships)**

- \*reflect on previous learning\*

Question 5: **Writing ratios**

- How would you describe a ratio without using mathematical language?

## Week 2: Day 1

1) List the factors of 15 in ascending order.

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2) Expand:

$$3(x + 9) =$$

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3) Find 30% of 90.

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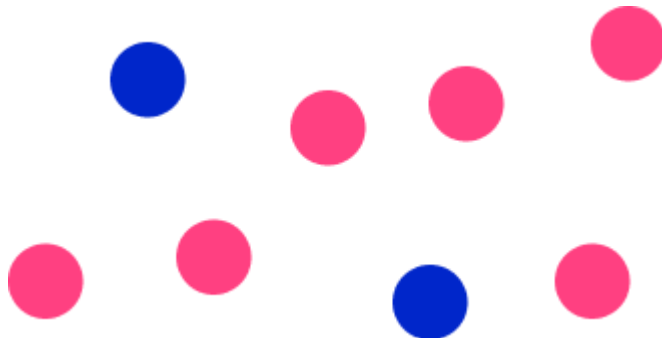
4) Complete the table of values for the linear relationship,

$$y = 4x - 3$$

$x$	-2	0	2
$y$			

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5) Write the ratio, in its simplest form, of red to blue:



## Week 2: Day 1 Answers

- 1) List the factors of 15 in ascending order.

1, 3, 5, 15

- 2) Expand:

$$3(x + 9) = 3x + 27$$

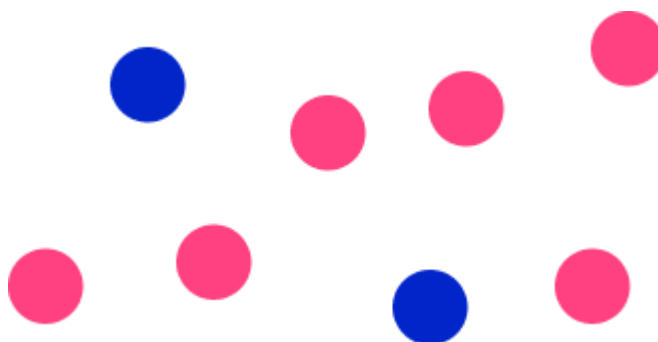
- 3) Find 30% of 90. 27

- 4) Complete the table of values for the linear relationship,

$$y = 4x - 3$$

$x$	-2	0	2
$y$	-11	-3	5

- 5) Write the ratio, in its simplest form, of red to blue: 3:1



## Week 2: Day 2

1) List the factors of 28 in ascending order.

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2) Expand and simplify:

$$4(2x + 3) + 2(3x - 5) =$$

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3) Find 15% of 45.

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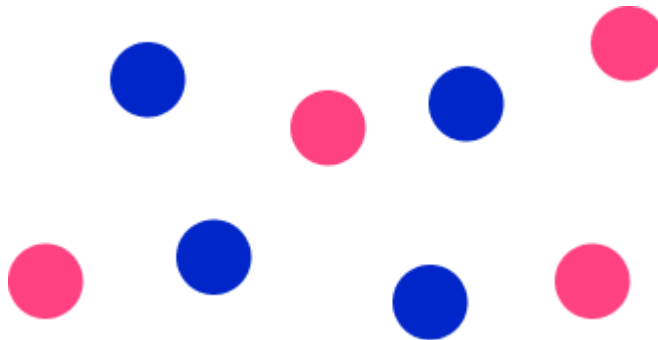
4) Complete the table of values for the linear relationship,

$$y = 7 - 2x$$

$x$	-3	0	3
$y$			

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5) Write the ratio, in its simplest form, of blue to red:



## Week 2: Day 2 Answers

- 1) List the factors of 28 in ascending order.

1, 2, 4, 7, 14, 28

- 2) Expand and simplify:

$$4(2x + 3) + 2(3x - 5) = 8x + 12 + 6x - 10$$

$$= 14x + 2$$

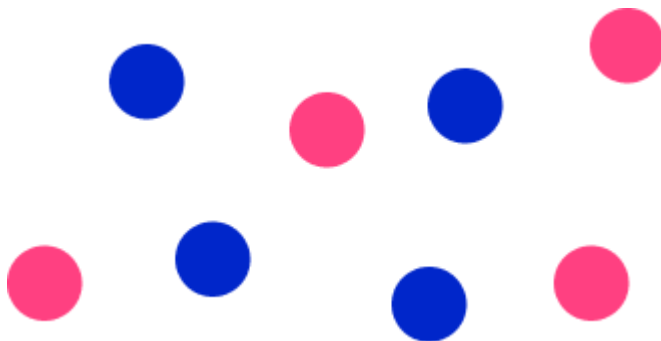
- 3) Find 15% of 45. 6.75

- 4) Complete the table of values for the linear relationship,

$$y = 7 - 2x$$

$x$	-3	0	3
$y$	13	7	1

- 5) Write the ratio, in its simplest form, of blue to red: 1 : 1



## Week 2: Day 3

1) List the factors of 36 in ascending order.

2) Expand:

$$x(2x + y) =$$

3) Find 12% of 74.

4) Complete the table of values for the linear relationship,

$$y = \frac{x}{2} + 5$$

$x$	-4	0	6
$y$			

5) Write the ratio, in its simplest form, of red to blue:



## Week 2: Day 3 Answers

- 1) List the factors of 36 in ascending order.

1, 2, 3, 4, 6, 9, 12, 18, 36

- 2) Expand:

$$x(2x + y) = 2x^2 + xy$$

- 3) Find 12% of 74. 8.88

- 4) Complete the table of values for the linear relationship,

$$y = \frac{x}{2} + 5$$

$x$	-4	0	6
$y$	3	5	8

- 5) Write the ratio, in its simplest form, of red to blue: 2:1



## Week 2: Day 4

1) List the factors of 27 in ascending order.

2) Expand and simplify:

$$5(x - 2) - 2(7 - x) =$$

3) Find 9% of 80.

4) Complete the table of values for the linear relationship,

$$y + x = 8$$

$x$	-2	1	5
$y$			

5) Write the ratio, in its simplest form, of red to blue to green:



## Week 2: Day 4 Answers

- 1) List the factors of 27 in ascending order.

1, 3, 9, 27

- 2) Expand and simplify:

$$\begin{aligned}5(x - 2) - 2(7 - x) &= 5x - 10 - 14 + 2x \\ &= 7x - 24\end{aligned}$$

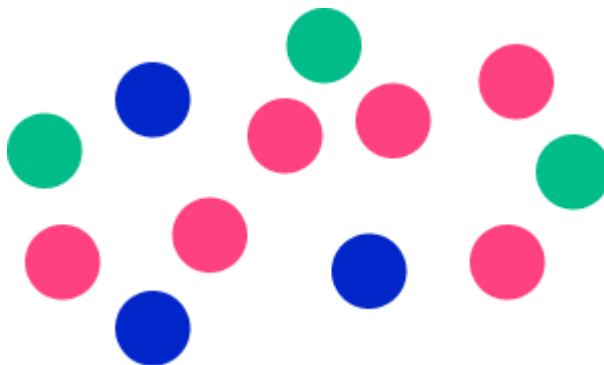
- 3) Find 9% of 80. 7.2

- 4) Complete the table of values for the linear relationship,

$$y + x = 8$$

$x$	-2	1	5
$y$	10	7	3

- 5) Write the ratio, in its simplest form, of red to blue to green: 2:1:1



## Week 2: Day 5

- 1) List the factors of 32 in ascending order.

- 2) Expand:

$$2x(4 - 3x) =$$

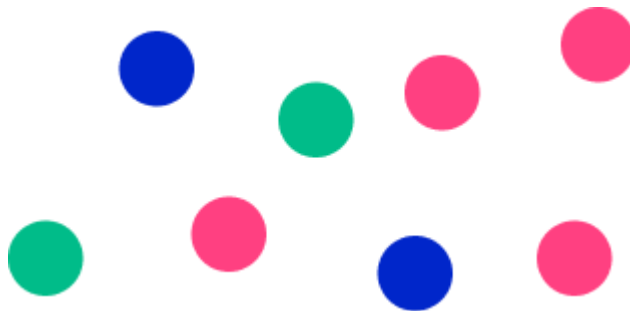
- 3) Find 85% of 116.

- 4) Complete the table of values for the linear relationship,

$$2y - x = 5$$

$x$	-3	0	3
$y$			

- 5) Write the ratio, in its simplest form, of red to blue to green:



## Week 2: Day 5 Answers

- 1) List the factors of 32 in ascending order.

1, 2, 4, 8, 16, 32

- 2) Expand:

$$2x(4 - 3x) = 8x - 6x^2$$

- 3) Find 85% of 116. 98.6

- 4) Complete the table of values for the linear relationship,

$$2y - x = 5$$

$x$	-3	0	3
$y$	1	2.5	4

- 5) Write the ratio, in its simplest form, of red to blue to green: 2:1:1



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