

Week 1

This week in a nutshell:

For question 3, students may need a reminder (or definition) for what is meant by a common ratio. It is worth getting students to note the difference between a common ratio and common difference. The other topics are familiar; in terms of rounding, different degrees of accuracy occur on different days and for question 5, the axes do not all have the same scale.

Question 1: Rounding

Question 2: Simplifying expressions

Question 3: Common ratio for a geometric progression

Question 4: Symmetry

Question 5: Writing coordinates

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: Rounding

- What do we mean by 'degree of accuracy' when rounding?

Question 2: Simplifying expressions

- What is the first thing you consider when simplifying algebra?

Question 3: Common ratio for a geometric progression

- How do you determine the common ratio?
- What roles do the common ratio and common difference perform in sequences?

Question 4: Symmetry

- What is symmetry?

Question 5: Writing coordinates

- We tend to view coordinates on a flat surface; how might we use coordinates to give our position on the Earth?

Week 1: Day 1

1) Round 23.812 to the nearest integer.

2) Simplify:

$$4k + 5k =$$

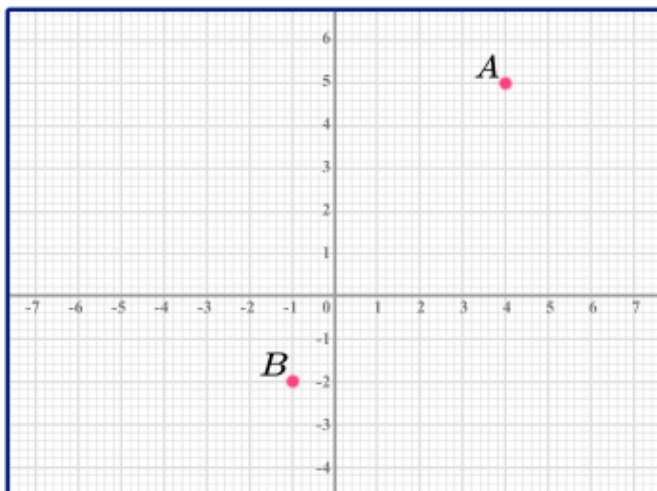
3) Find the common ratio:

1, 3, 9, 27, 81, ...

4) Draw all lines of symmetry. If there are no lines of symmetry, write "*none*".



5) Write the coordinates of points *A* and *B*:



Week 1: Day 1 Answers

1) Round 23.812 to the nearest integer. **24**

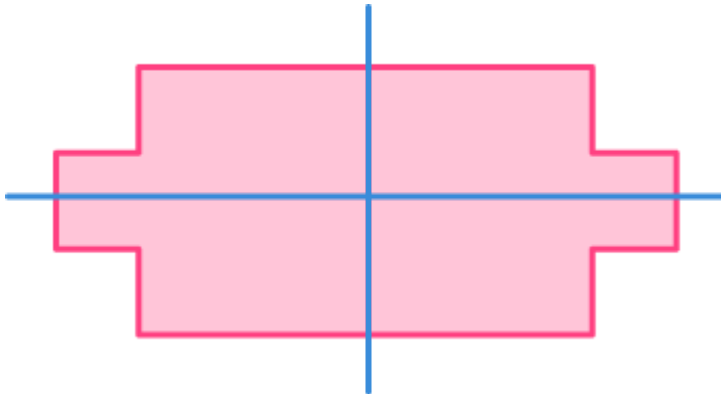
2) Simplify:

$$4k + 5k = 9k$$

3) Find the common ratio: **3**

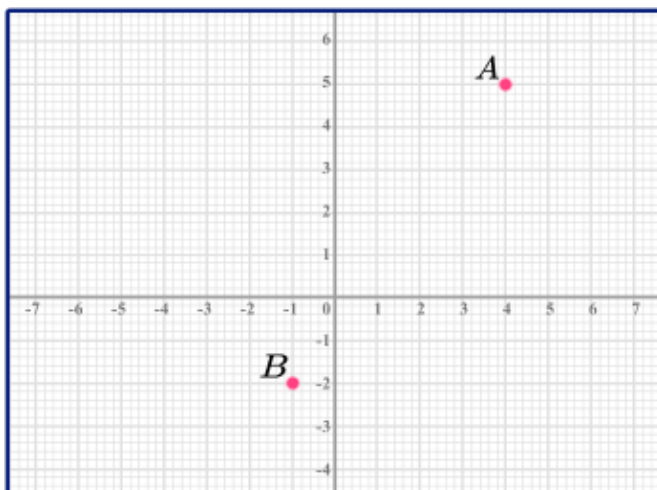
1, 3, 9, 27, 81, ...

4) Draw all lines of symmetry. If there are no lines of symmetry, write "*none*".



5) Write the coordinates of points *A* and *B*:

***A*(4, 5) *B*(− 1, − 2)**



Week 1: Day 2

1) Round 6.3745 to two decimal places.

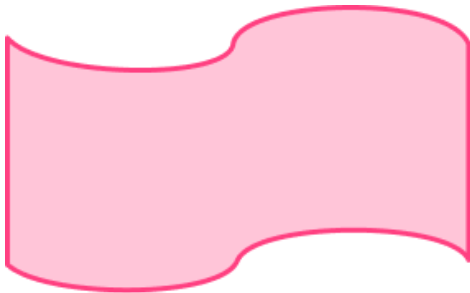
2) Simplify:

$$3a - 7a + 6a =$$

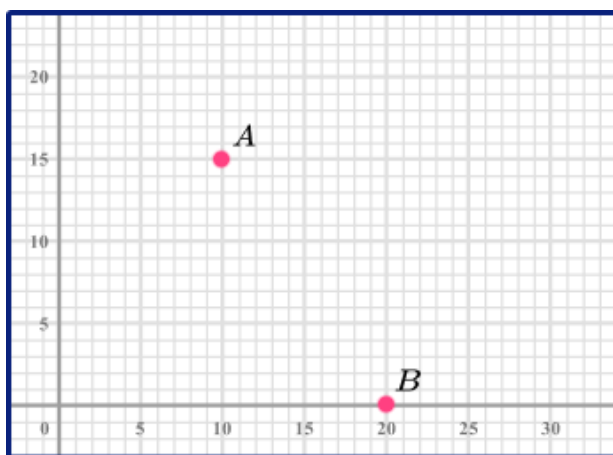
3) Find the common ratio:

2, 4, 8, 16, 32, ...

4) Draw all lines of symmetry. If there are no lines of symmetry, write "none".



5) Write the coordinates of points *A* and *B*:



Week 1: Day 2 Answers

- 1) Round 6.3745 to two decimal places. **6.37**

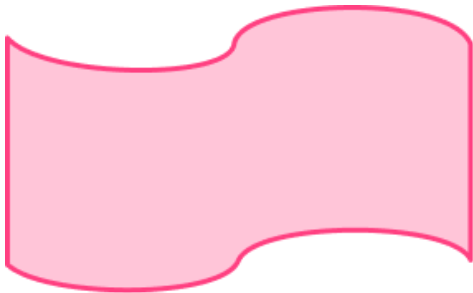
- 2) Simplify:

$$3a - 7a + 6a = 2a$$

- 3) Find the common ratio: **2**

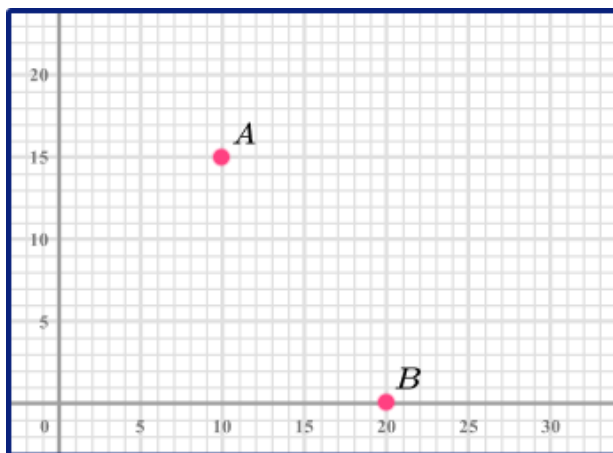
2, 4, 8, 16, 32, ...

- 4) Draw all lines of symmetry. If there are no lines of symmetry, write "none". **None**



- 5) Write the coordinates of points A and B:

A(10, 15) B(20, 0)



Week 1: Day 3

1) Round 762549 to the nearest thousand.

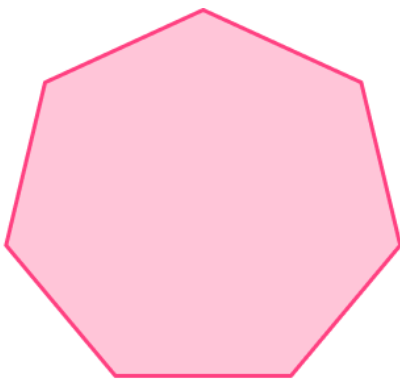
2) Simplify:

$$2f + 7g + 3f - 8g =$$

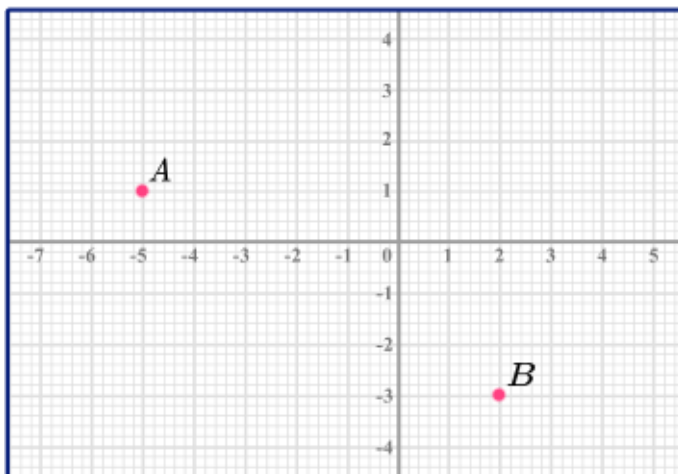
3) Find the common ratio:

2, 10, 50, 250, 1250, ...

4) State the order of rotational symmetry.



5) Write the coordinates of points *A* and *B*:



Week 1: Day 3 Answers

1) Round 762549 to the nearest thousand. 763000

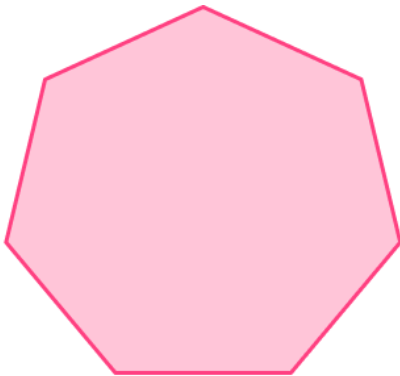
2) Simplify:

$$2f + 7g + 3f - 8g = 5f - g$$

3) Find the common ratio: 5

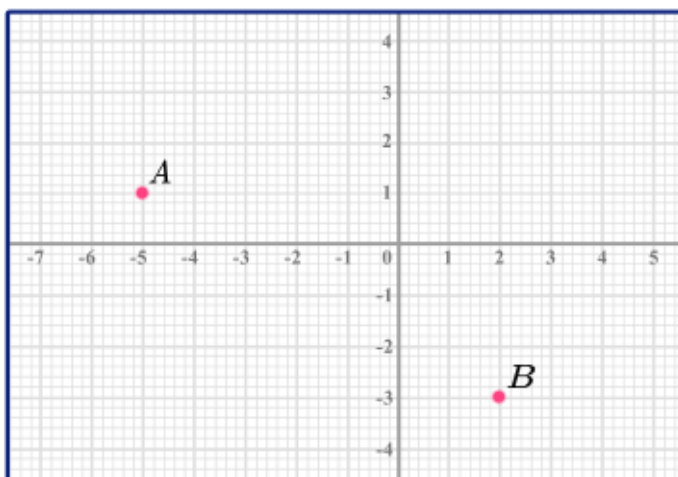
2, 10, 50, 250, 1250, ...

4) State the order of rotational symmetry. Order 7



5) Write the coordinates of points A and B:

A(-5, 1) B(2, -3)



Week 1: Day 4

1) Round 453388 to the nearest hundred.

2) Simplify:

$$d + 2 - 9d + 1 =$$

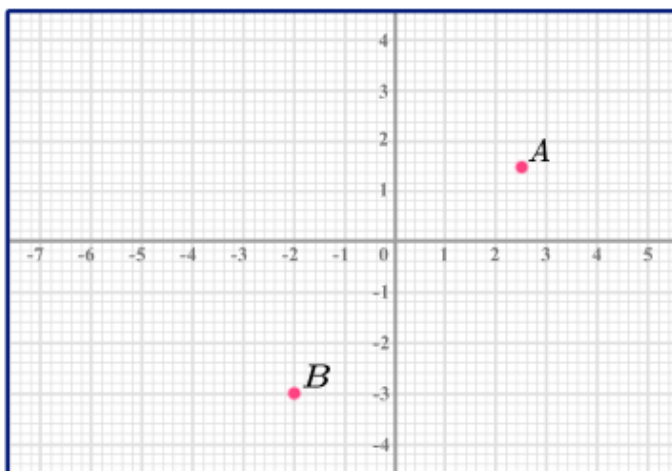
3) Find the common ratio:

2, 3, 4.5, 6.75, 10.125, ...

4) Draw all lines of symmetry. If there are no lines of symmetry, write "none".



5) Write the coordinates of points *A* and *B*:



Week 1: Day 4 Answers

1) Round 453388 to the nearest hundred. 453400

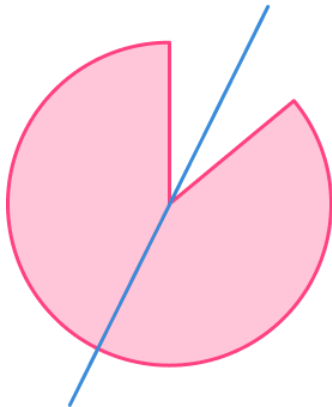
2) Simplify:

$$d + 2 - 9d + 1 = 3 - 8d$$

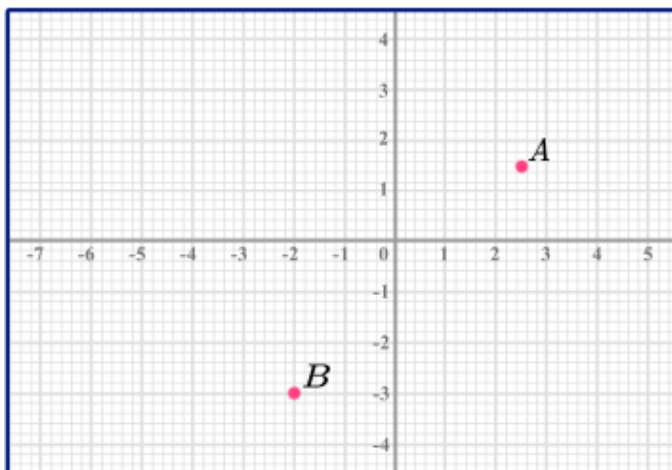
3) Find the common ratio: 1.5

2, 3, 4.5, 6.75, 10.125, ...

4) Draw all lines of symmetry. If there are no lines of symmetry, write "none".



5) Write the coordinates of points A and B:
A(2.5, 1.5) B(-2, -3)



Week 1: Day 5

1) Round 12.991 to one decimal place.

2) Simplify:

$$\frac{8t-3t}{5t} =$$

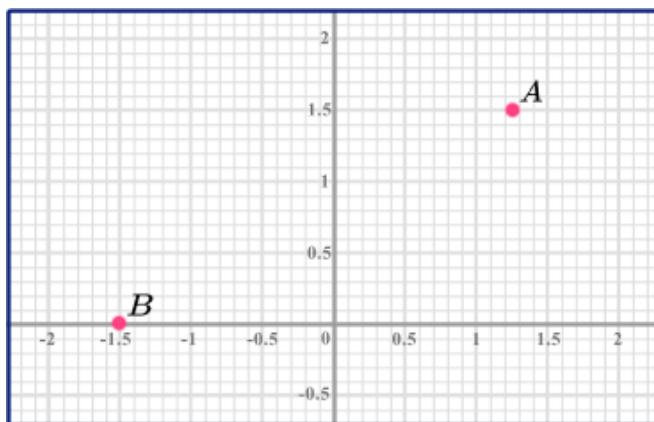
3) Find the common ratio:

256, 128, 64, 32, 16, ...

4) State the order of rotational symmetry.



5) Write the coordinates of points *A* and *B*:



Week 1: Day 5 Answers

1) Round 12.991 to one decimal place. 13.0

2) Simplify:

$$\frac{8t-3t}{5t} = 1$$

3) Find the common ratio: $\frac{1}{2}$

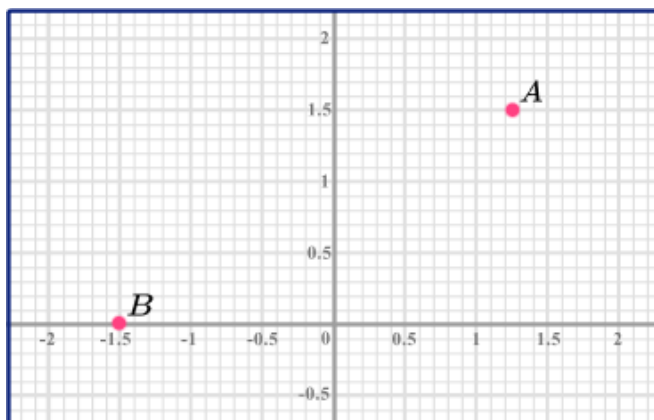
256, 128, 64, 32, 16, ...

4) State the order of rotational symmetry. Order 2



5) Write the coordinates of points A and B:

A(1.25, 1.5) B(-1.5, 0)



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