

Week 5

This week in a nutshell:

There is a mixture of statistics, algebra, arithmetic and geometry this week. Students should be reminded that the skills overlap, and that quite often different branches of maths can be needed to solve a single problem. Dealing with the topics in this way is normalising and aids fluency.

Question 1: Descriptive statistics

Question 2: Simple substitution

Question 3: Arithmetic with fractions

Question 4: Trigonometry (finding side lengths)

Question 5: Symmetry

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: **Descriptive statistics**

- Give a definition of each type of average?
- When might each average be used?

Question 2: **Simple substitution**

- Describe the process of substitution in your own words?

Question 3: **Arithmetic with fractions**

- *reflect on previous learning*

Question 4: **Trigonometry (finding side lengths)**

- How do you remember the trigonometric relationships?

Question 5: **Symmetry**

- Where do we see symmetry in real life?
- How many examples of symmetry can you see right now?

Week 5: Day 1

- 1) Find the median of this data:

34, 37, 32, 29, 41

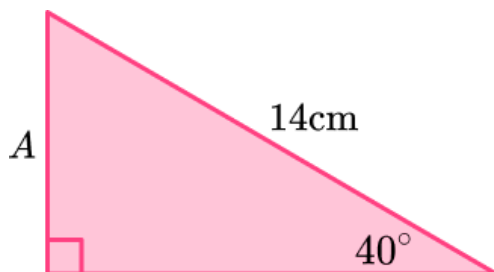
- 2) If $a = 2$ and $b = 5$, evaluate:

$$2a + b$$

- 3) Evaluate:

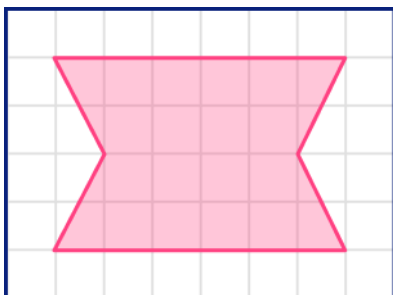
$$\frac{2}{3} \times \frac{5}{6} =$$

- 4) Find the length of side A:



- 5) For the image given:

- a) Draw any lines of symmetry
- b) State the order of rotational symmetry



Week 5: Day 1 Answers

- 1) Find the median of this data:

34, 37, 32, 29, 41 34

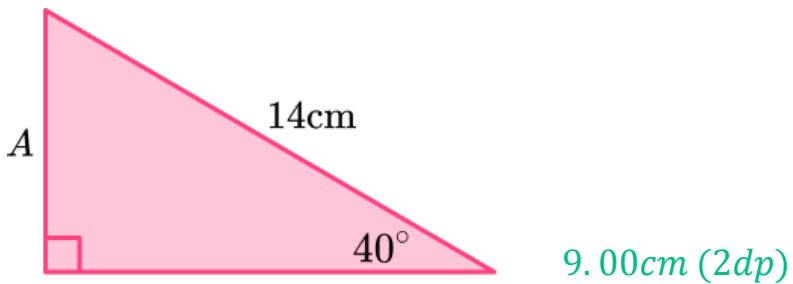
- 2) If $a = 2$ and $b = 5$, evaluate:

$$2a + b = 2 \times 2 + 5 = 9$$

- 3) Evaluate:

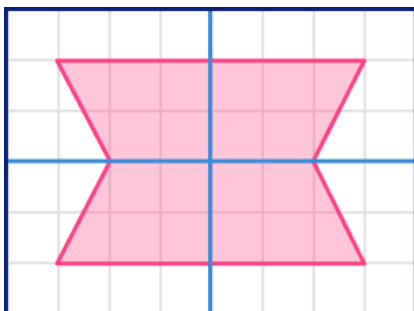
$$\frac{2}{3} \times \frac{5}{6} = \frac{5}{9}$$

- 4) Find the length of side A:



- 5) For the image given:

- a) Draw any lines of symmetry
b) State the order of rotational symmetry 2



Week 5: Day 2

- 1) Find the mode of this data:

3, 5, 5, 1, 2, 3, 4, 3, 1

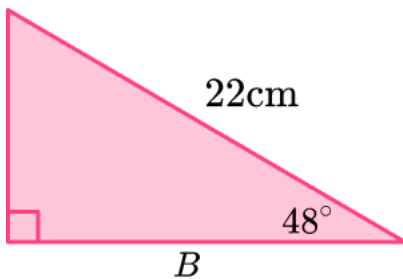
- 2) If $a = 4$ and $b = 7$, evaluate:

$$5a - 2b$$

- 3) Evaluate:

$$\frac{7}{8} - \frac{1}{3} =$$

- 4) Find the length of side B:



- 5) For the image given:
- Draw any lines of symmetry
 - State the order of rotational symmetry



Week 5: Day 2 Answers

- 1) Find the mode of this data:

3, 5, 5, 1, 2, 3, 4, 3, 1 3

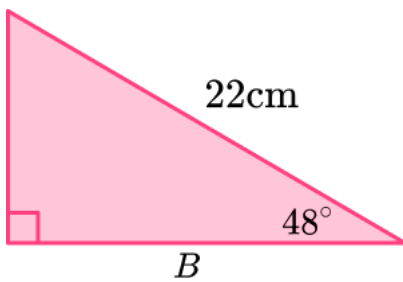
- 2) If $a = 4$ and $b = 7$, evaluate:

$$5a - 2b = 5 \times 4 - 2 \times 7 = 6$$

- 3) Evaluate:

$$\frac{7}{8} - \frac{1}{3} = \frac{13}{24}$$

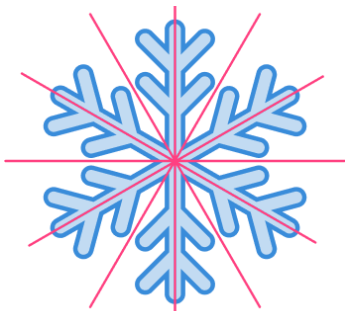
- 4) Find the length of side B:



14.7cm (1dp)

- 5) For the image given:

- a) Draw any lines of symmetry
b) State the order of rotational symmetry 6



Week 5: Day 3

- 1) Find the mean of this data:

23, 24, 19, 18, 21

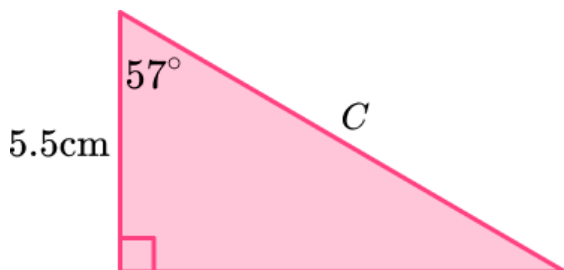
- 2) If $a = 3$ and $b = 7$, evaluate:

$2ab$

- 3) Evaluate:

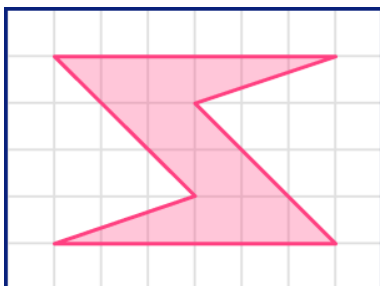
$$2\frac{1}{2} + 1\frac{3}{4} =$$

- 4) Find the length of side C:



- 5) For the image given:

- Draw any lines of symmetry
- State the order of rotational symmetry



Week 5: Day 3 Answers

- 1) Find the mean of this data:

23, 24, 19, 18, 21 21

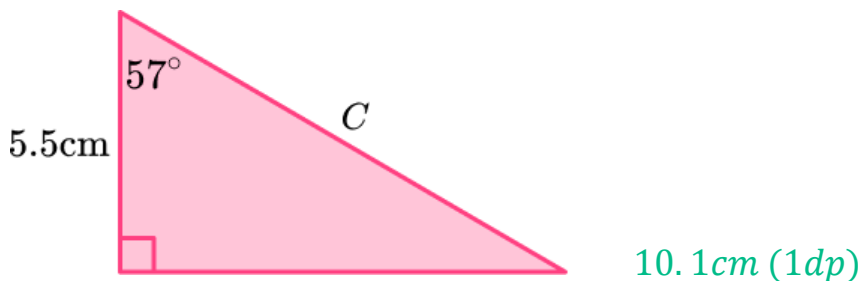
- 2) If $a = 3$ and $b = 7$, evaluate:

$$2ab = 2 \times 3 \times 7 = 42$$

- 3) Evaluate:

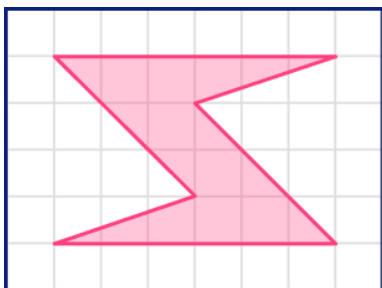
$$2\frac{1}{2} + 1\frac{3}{4} = 4\frac{1}{4}$$

- 4) Find the length of side C:



- 5) For the image given:

- a) Draw any lines of symmetry (none)
b) State the order of rotational symmetry 2



Week 5: Day 4

- 1) Find the range of this data:

78, 84, 92, 81, 85

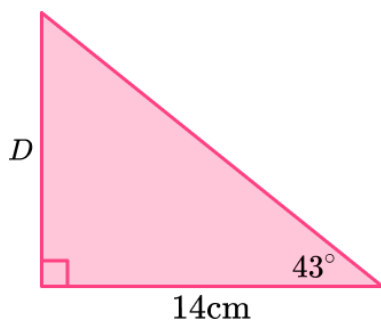
- 2) If $a = 3$ and $b = -9$, evaluate:

$$3a + b$$

- 3) Evaluate:

$$4\frac{1}{3} - 3\frac{5}{8} =$$

- 4) Find the length of side D:



- 5) For the image given:
- Draw any lines of symmetry
 - State the order of rotational symmetry



Week 5: Day 4 Answers

- 1) Find the range of this data:

78, 84, 92, 81, 85 14

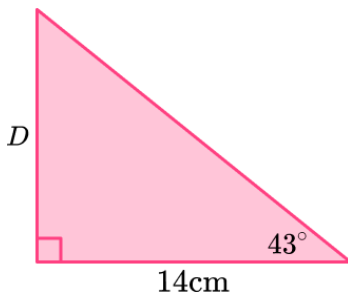
- 2) If $a = 3$ and $b = -9$, evaluate:

$$3a + b = 3 \times 3 - 9 = 0$$

- 3) Evaluate:

$$4\frac{1}{3} - 3\frac{5}{8} = \frac{17}{24}$$

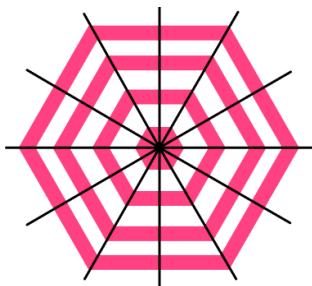
- 4) Find the length of side D:



13.1cm (1dp)

- 5) For the image given:

- a) Draw any lines of symmetry
b) State the order of rotational symmetry 6



Week 5: Day 5

- 1) Find the median of this data:

9.3, 9.2, 8.7, 8.7, 9.9, 9.1

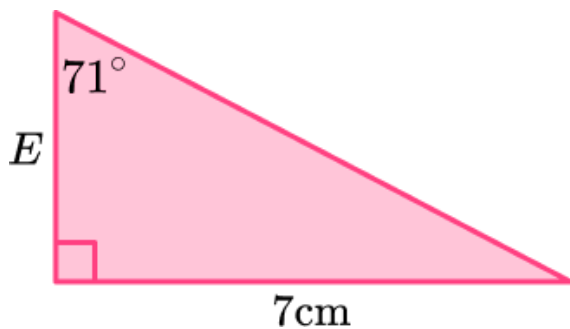
- 2) If $a = -3$ and $b = 4$, evaluate:

$$b^2 - a$$

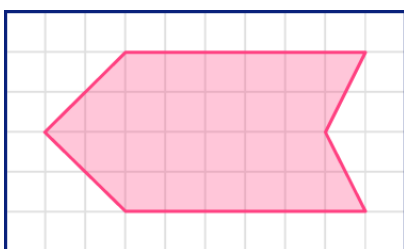
- 3) Evaluate:

$$\frac{1}{3} \times \frac{3}{4} \div \frac{1}{8} =$$

- 4) Find the length of side E:



- 5) For the image given:
- Draw any lines of symmetry
 - State the order of rotational symmetry



Week 5: Day 5 Answers

- 1) Find the median of this data:

9.3, 9.2, 8.7, 8.7, 9.9, 9.1 **9.15**

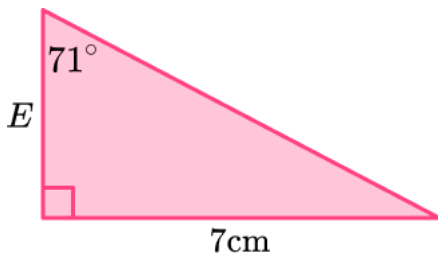
- 2) If $a = -3$ and $b = 4$, evaluate:

$$b^2 - a = 4^2 - -3 = 16 + 3 = 19$$

- 3) Evaluate:

$$\frac{1}{3} \times \frac{3}{4} \div \frac{1}{8} = 2$$

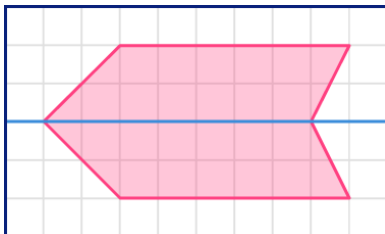
- 4) Find the length of side E:



2.41cm (2dp)

- 5) For the image given:

- a) Draw any lines of symmetry
 b) State the order of rotational symmetry **No rotational symmetry**



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