

## Week 5

### This week in a nutshell:

The main new skill this week is making a variable the subject, which could be linked back to solving equations. Students may need time to discuss this afterwards or deal with misconceptions. With this in mind, the other questions do not introduce new ideas. They build fluency on prior learning.

**Question 1:** Arithmetic with decimals

**Question 2:** Simplifying ratio

**Question 3:** Making a variable the subject

**Question 4:** Reflecting in a line of symmetry

**Question 5:** Missing angles

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: **Arithmetic with decimals**

- Where do we see decimals in everyday life?

Question 2: **Simplifying ratio**

- How do we use factors when simplifying ratio?

Question 3: **Making a variable the subject**

- Why might we want to change the subject of an equation?

Question 4: **Reflecting in a line of symmetry**

- Why are right-angles important in symmetry?

Question 5: **Missing angles**

- Are the angles missing or just unknown?

## Week 5: Day 1

1) **Calculate:**

$$1.8 \times 7 =$$

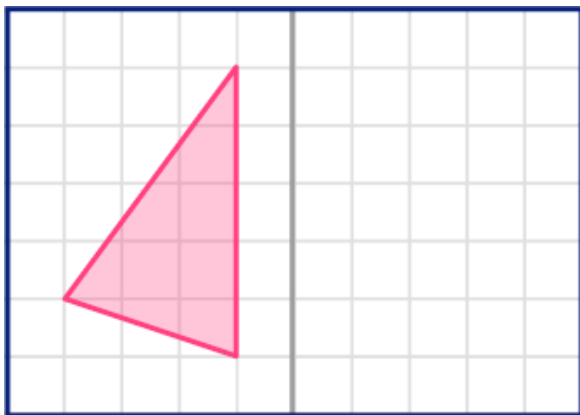
2) **Fully simplify the ratio:**

$$12 : 9$$

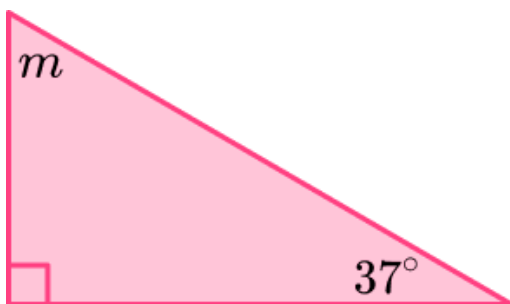
3) **Make  $x$  the subject:**

$$2y + x = 5z$$

4) **Reflect the shape in the given line of symmetry:**



5) **Determine the size of the angle marked  $m$ .**



## Week 5: Day 1 Answers

1) Calculate:

$$1.8 \times 7 = 12.6$$

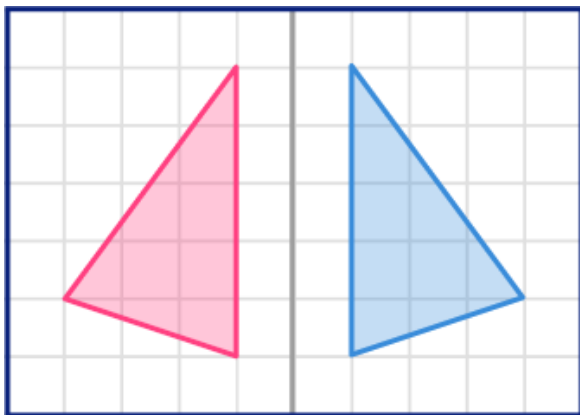
2) Fully simplify the ratio:

$$12 : 9 \quad 4:3$$

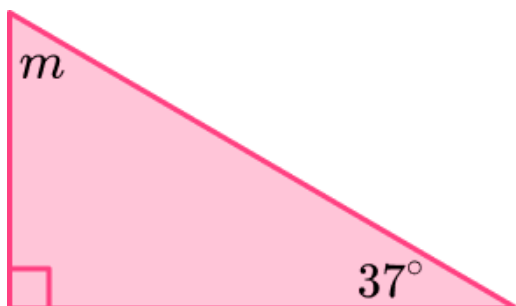
3) Make  $x$  the subject:

$$2y + x = 5z \quad x = 5z - 2y$$

4) Reflect the shape in the given line of symmetry:



5) Determine the size of the angle marked  $m$ .  $53^\circ$



## Week 5: Day 2

1) **Calculate:**

$$7.05 + 4.87 =$$

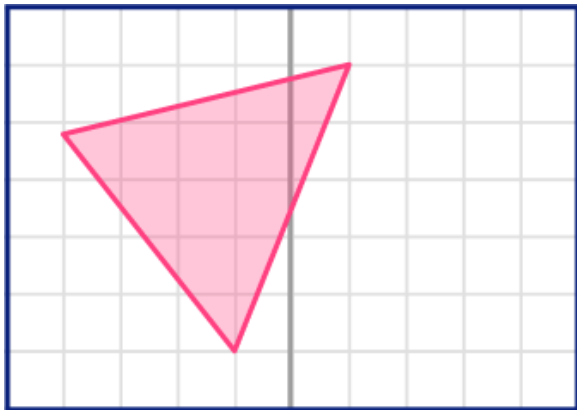
2) **Write the ratio in the form  $1:n$ :**

$$\frac{1}{3} : 2$$

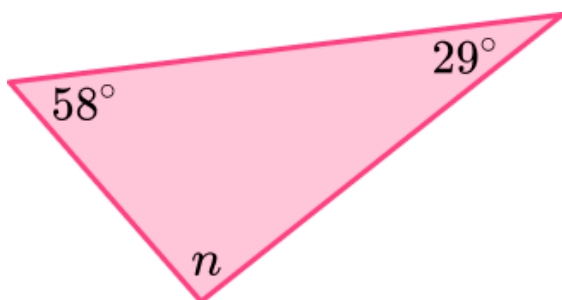
3) **Make  $a$  the subject:**

$$3b - a = c$$

4) **Reflect the shape in the given line of symmetry:**



5) **Determine the size of the angle marked  $n$ .**



## Week 5: Day 2 Answers

1) Calculate:

$$7.05 + 4.87 = 11.92$$

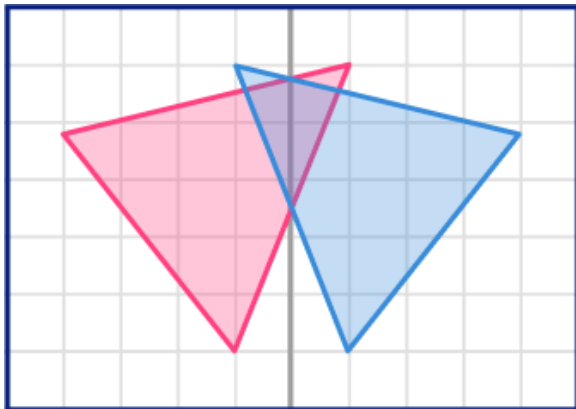
2) Write the ratio in the form 1:  $n$  :

$$\frac{1}{3} : 2 \quad 1:6$$

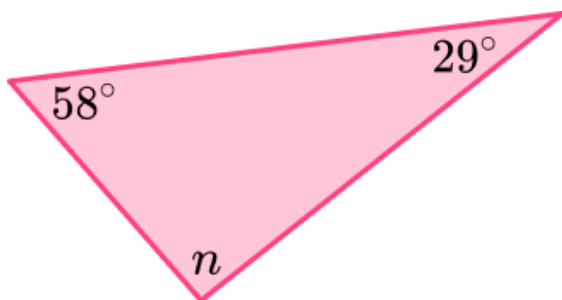
3) Make  $a$  the subject:

$$3b - a = c \quad a = 3b - c$$

4) Reflect the shape in the given line of symmetry:



5) Determine the size of the angle marked  $n$ .  $93^\circ$



## Week 5: Day 3

1) **Calculate:**

$$5.4 - 3.18 =$$

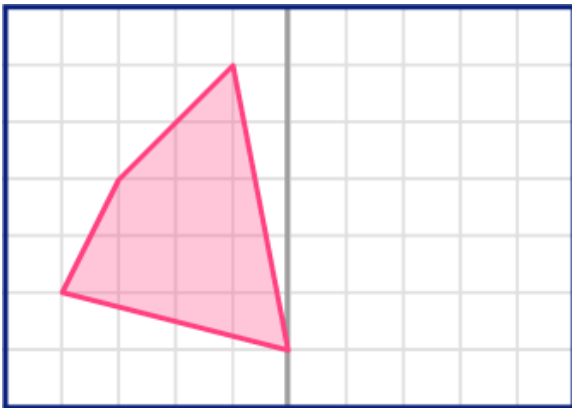
2) **Fully simplify the ratio:**

$$15 : 25$$

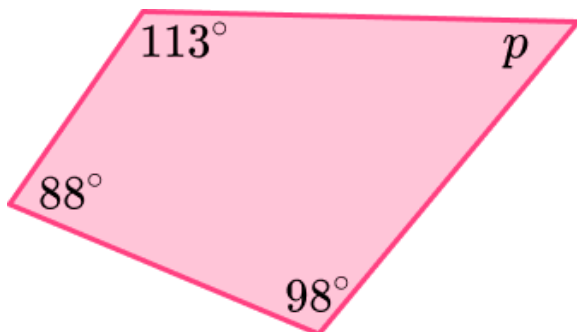
3) **Make  $f$  the subject:**

$$6f - g = 4f - 3h$$

4) **Reflect the shape in the given line of symmetry:**



5) **Determine the size of the angle marked  $p$ .**



## Week 5: Day 3 Answers

1) Calculate:

$$5.4 - 3.18 = 2.22$$

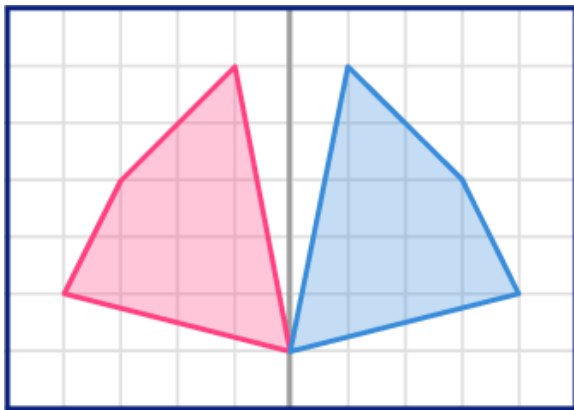
2) Fully simplify the ratio:

$$15 : 25 \quad 3:5$$

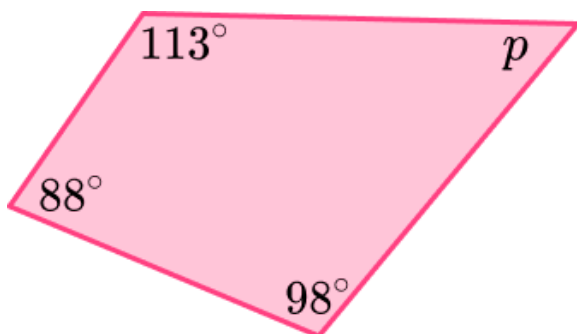
3) Make  $f$  the subject:

$$6f - g = 4f - 3h \quad f = \frac{1}{2}(g - 3h)$$

4) Reflect the shape in the given line of symmetry:



5) Determine the size of the angle marked  $p$ .  $61^\circ$



## Week 5: Day 4

1) **Calculate:**

$$0.42 \div 0.014 =$$

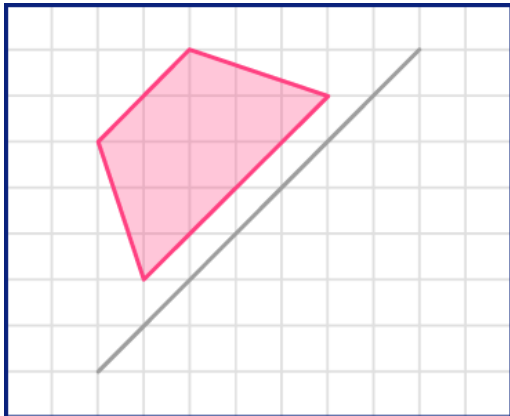
2) **Write the ratio in the form  $1:n$ :**

$$\frac{2}{5} : 8$$

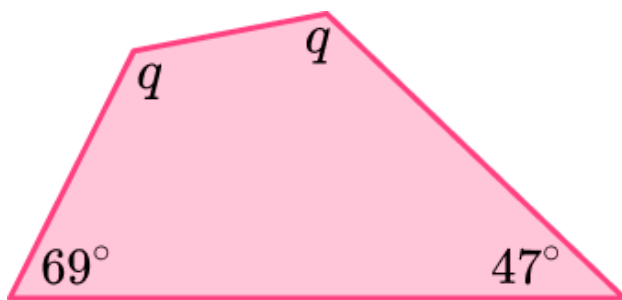
3) **Make  $m$  the subject:**

$$7k - 3m = 2n - 3k$$

4) **Reflect the shape in the given line of symmetry:**



5) **Determine the size of the angle marked  $q$ .**



## Week 5: Day 4 Answers

1) Calculate:

$$0.42 \div 0.014 = 30$$

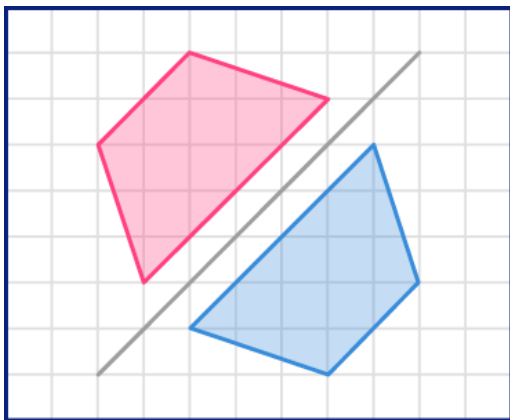
2) Write the ratio in the form 1:  $n$  :

$$\frac{2}{5} : 8 \quad 1:20$$

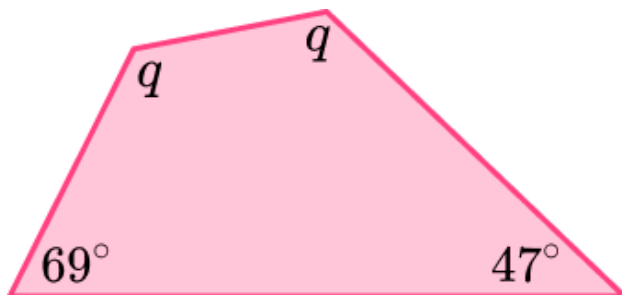
3) Make  $m$  the subject:

$$7k - 3m = 2n - 3k \quad m = \frac{1}{3}(10k - 2n)$$

4) Reflect the shape in the given line of symmetry:



5) Determine the size of the angle marked  $q$ .  $122^\circ$



## Week 5: Day 5

1) Calculate:

$$2.7 + 3.6 - 1.4 =$$

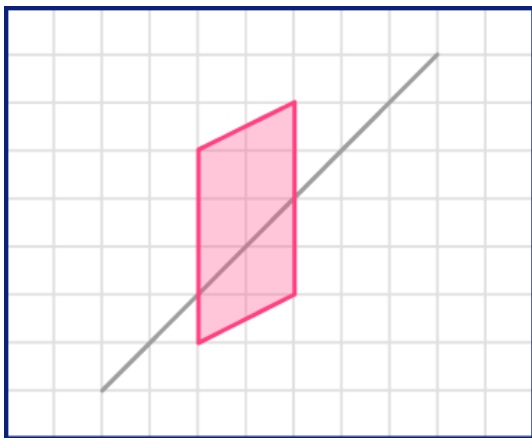
2) Fully simplify the ratio:

$$18 : 24 : 36$$

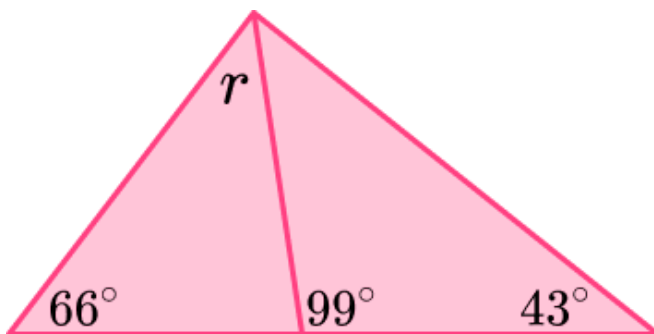
3) Make  $x$  the subject:

$$3z - 4x = 6y - x$$

4) Reflect the shape in the given line of symmetry:



5) Determine the size of the angle marked  $r$ .



## Week 5: Day 5 Answers

1) Calculate:

$$2.7 + 3.6 - 1.4 = 4.9$$

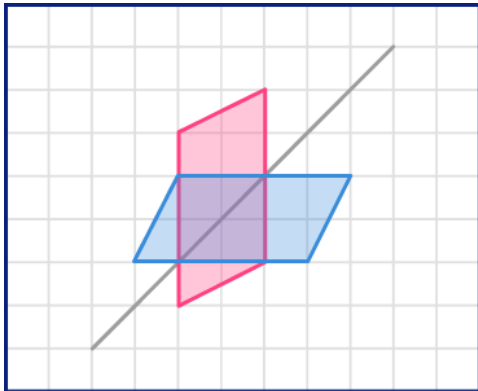
2) Fully simplify the ratio:

$$18 : 24 : 36 \quad 3 : 4 : 6$$

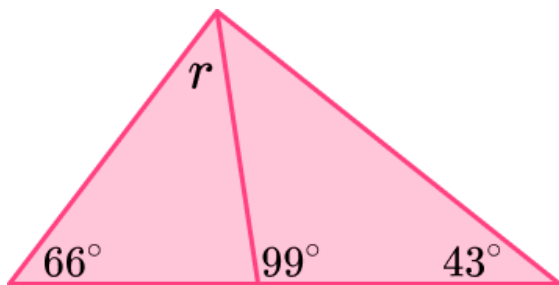
3) Make  $x$  the subject:

$$3z - 4x = 6y - x \quad x = z - 2y$$

4) Reflect the shape in the given line of symmetry:



5) Determine the size of the angle marked  $r$ .  $33^\circ$



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