

## Week 12

### This week in a nutshell:

Here we have a mixture of conceptual and procedural topics. Questions 1, 2 and 3 are dealt with in the same week to avoid confusion with other forms of fraction arithmetic and to highlight the similarities between the methods. Question 4 makes a connection between two previously seen topics, as does question 5. You may like to finish the term by asking students how much they think all branches of maths interconnect.

**Question 1:** Multiplying fractions

**Question 2:** Fraction of an amount (worded)

**Question 3:** Dividing fractions

**Question 4:** Coordinates and shape

**Question 5:** Forming equations using area

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

**Question 1: Multiplying fractions**

- How do you multiply fractions?
- If you multiply unit fractions, is the answer bigger or smaller than the numbers you started with?

**Question 2: Fraction of an amount (worded)**

- How easy/difficult is it to translate written English into a calculation? Why might this be?

**Question 3: Dividing fractions**

- How would you describe the process of dividing fractions?

**Question 4: Coordinates and shape**

- Is it possible to have more than one correct answer for these questions?

**Question 5: Forming equations using area**

- What advice would you give to someone learning this for the first time?
- How do you know you have used the information correctly?

## Week 12: Day 1

- 1) **Work out**

$$\frac{1}{2} \times \frac{1}{2} =$$

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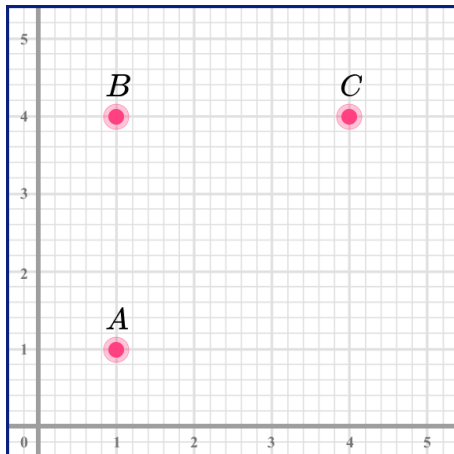
- 2) **What is half of 36?**
- 

- 3) **Calculate**

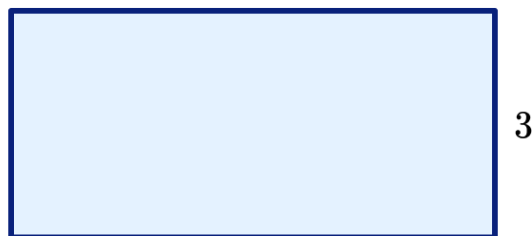
$$\frac{1}{2} \div \frac{1}{4} =$$

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- 4) **For ABCD to be a square, the coordinates of point D are \_\_\_\_.**



- 5) **Form an equation representing area using information about this rectangle. (You do not need to solve the equation)**



Area: 36

$$x + 8$$

## Week 12: Day 1 Answers

- 1) **Work out**

$$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

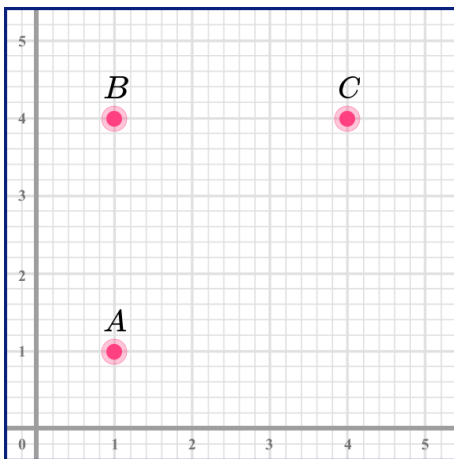
- 2) **What is half of 36?**

**18**

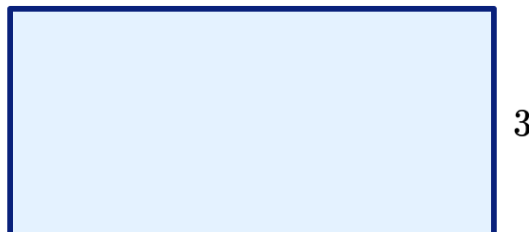
- 3) **Calculate**

$$\frac{1}{2} \div \frac{1}{4} = 2$$

- 4) **For ABCD to be a square, the coordinates of point D are **(4, 1)****



- 5) **Form an equation representing area using information about this rectangle. (You do not need to solve the equation)**



Area: 36

$$x + 8$$

3

$$3(x+8)=36$$

## Week 12: Day 2

- 1) **Work out**

$$\frac{1}{2} \times \frac{1}{4} =$$

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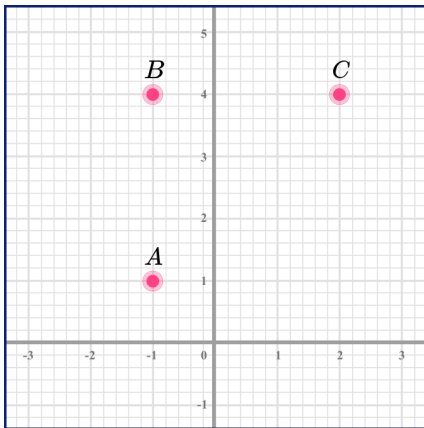
- 2) **What is one third of 54?**
- 

- 3) **Calculate**

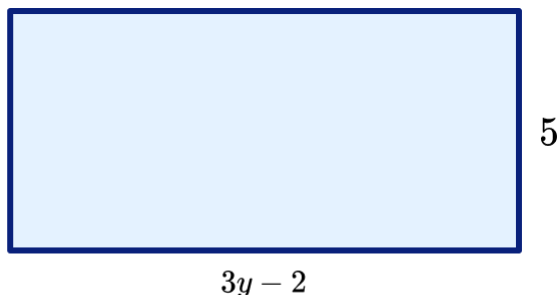
$$\frac{3}{4} \div \frac{5}{8} =$$

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- 4) **For ABCD to be a square, the coordinates of point D are \_\_\_\_.**



- 5) **Form an equation representing area using information about this rectangle. (You do not need to solve the equation)**



Area: 32

## Week 12: Day 2 Answers

- 1) **Work out**

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

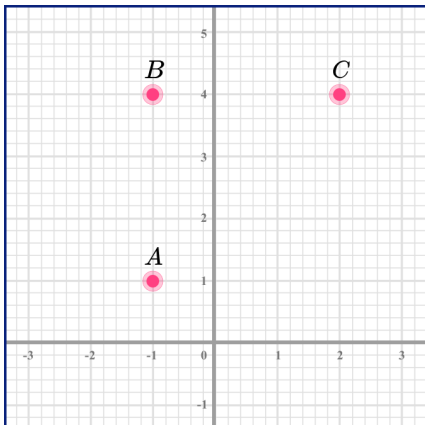
- 2) **What is one third of 54?**

**18**

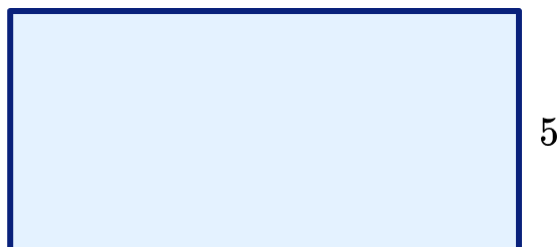
- 3) **Calculate**

$$\frac{3}{4} \div \frac{5}{8} = \frac{6}{5}$$

- 4) **For ABCD to be a square, the coordinates of point D are **(2, 1)****



- 5) **Form an equation representing area using information about this rectangle. (You do not need to solve the equation)**



**Area: 32**

$$3y - 2$$

$$5(3y-2)=32 \text{ or } 15y - 10 = 32$$

## Week 12: Day 3

1) **Work out**

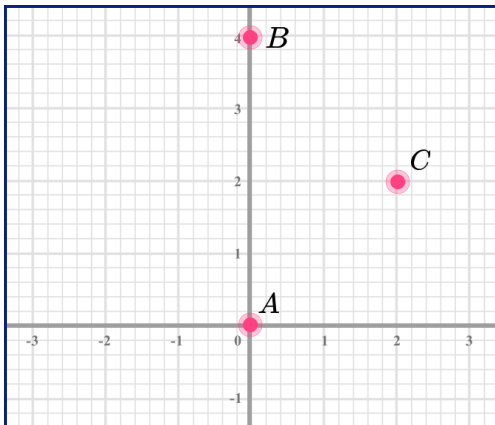
$$\frac{2}{3} \times \frac{3}{5} =$$

2) **What is three quarters of 84?**

3) **Calculate**

$$\frac{3}{5} \div \frac{2}{3} =$$

4) **For ABCD to be a square, the coordinates of point D are \_\_\_\_.**



5) **Form an equation representing area using information about this rectangle. (You do not need to solve the equation)**



**Area: 20**

$$5d - 2$$

$d$

## Week 12: Day 3 Answers

1) **Work out**

$$\frac{2}{3} \times \frac{3}{5} = \frac{6}{15} = \frac{2}{5}$$

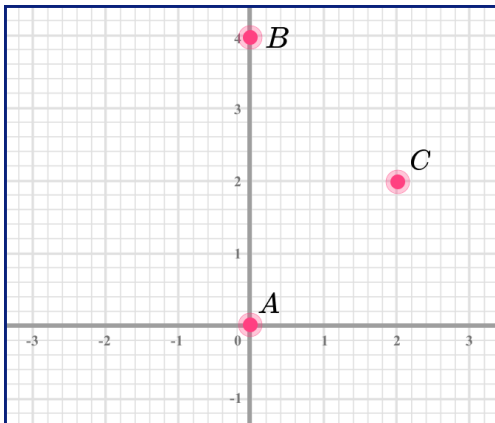
2) **What is three quarters of 84?**

**63**

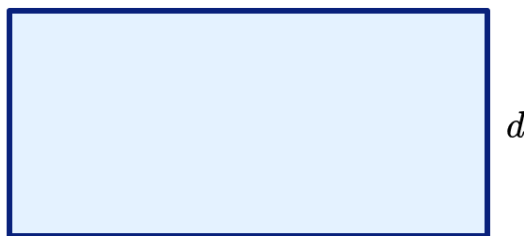
3) **Calculate**

$$\frac{3}{5} \div \frac{2}{3} = \frac{9}{10}$$

4) **For ABCD to be a square, the coordinates of point D are  **$(-2, 2)$****



5) **Form an equation representing area using information about this rectangle. (You do not need to solve the equation)**



Area: 20

$$5d - 2$$

$$d(5d-2)=20 \quad \text{or} \quad 5d^2 - 2d = 20$$

## Week 12: Day 4

- 1) Work out and write the answer in its simplest form

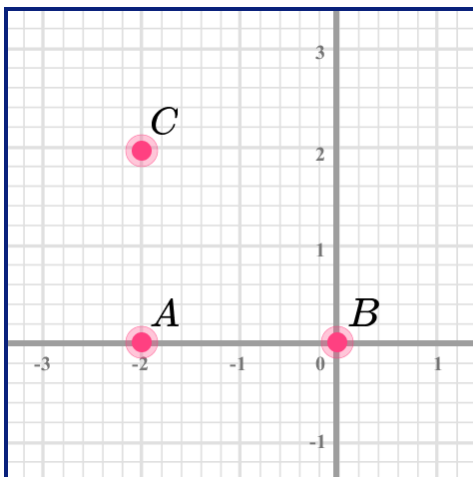
$$\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} =$$

- 2) What is four fifths of 75?

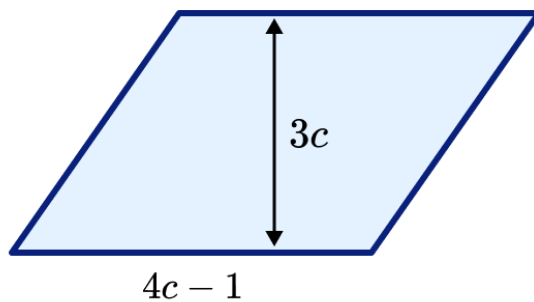
- 3) Calculate

$$\frac{7}{8} \div \frac{3}{4} =$$

- 4) For ABCD to be a square, the coordinates of point D are \_\_\_\_.



- 5) Form an equation representing area using information about this parallelogram. (You do not need to solve the equation)



Area: 42



## Week 12: Day 4 Answers

- 1) Work out and write the answer in its simplest form

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

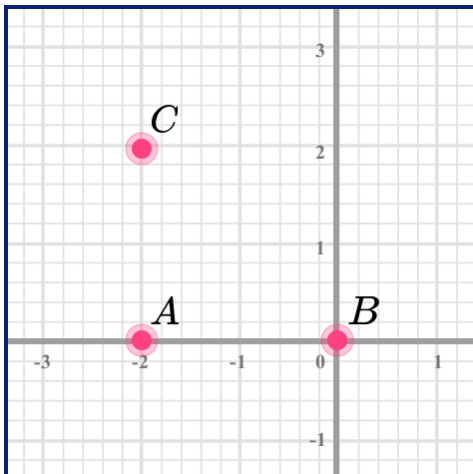
- 2) What is four fifths of 75?

60

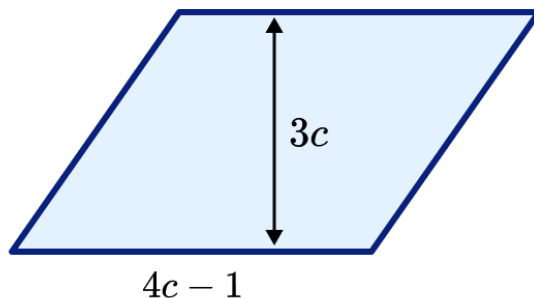
- 3) Calculate

$$\frac{7}{8} \div \frac{3}{4} = \frac{7}{6}$$

- 4) For ABCD to be a square, the coordinates of point D are (0, 2)



- 5) Form an equation representing area using information about this parallelogram. (You do not need to solve the equation)



Area: 42

$$3c(4c-1)=42 \text{ or } 12c^2 - 3c = 42$$

## Week 12: Day 5

- 1) Work out and write the answer in its simplest form

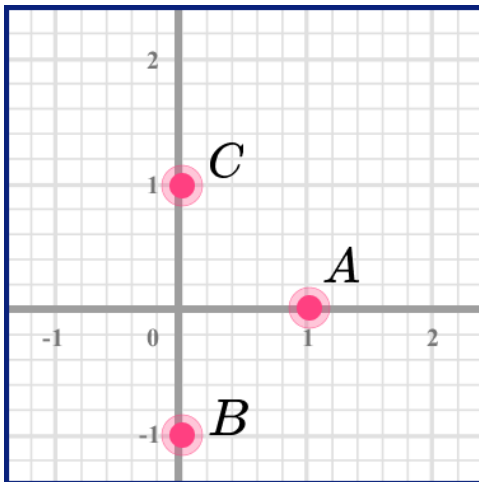
$$\frac{2}{7} \times \frac{3}{5} \times \frac{10}{11} =$$

- 2) What is three eighths of 72?

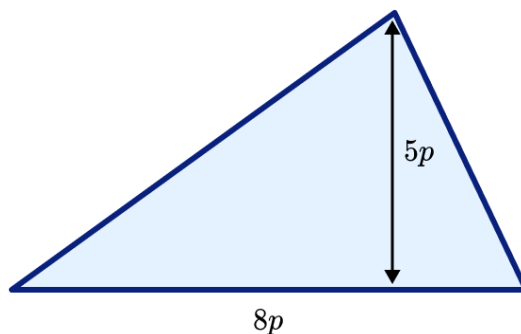
- 3) Calculate

$$\frac{12}{16} \div \frac{6}{8} =$$

- 4) For ABCD to be a square, the coordinates of point D are \_\_\_\_.



- 5) Form an equation representing area using information about this triangle.  
(You do not need to solve the equation)



Area: 38

## Week 12: Day 5 Answers

- 1) Work out and write the answer in its simplest form

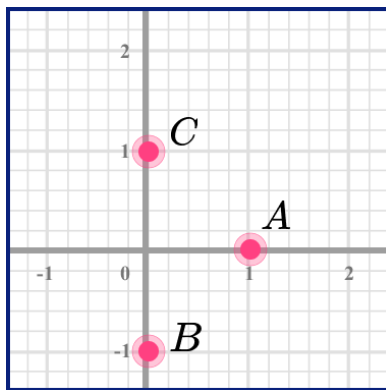
$$\frac{2}{7} \times \frac{3}{5} \times \frac{10}{11} = \frac{12}{77}$$

- 2) What is three eighths of 72? **27**

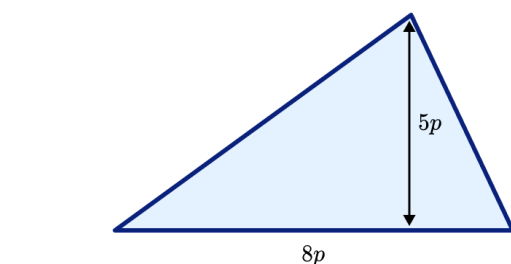
- 3) Calculate

$$\frac{12}{16} \div \frac{6}{8} = \mathbf{1}$$

- 4) For ABCD to be a square, the coordinates of point D are **(-1, 0)**



- 5) Form an equation representing area using information about this triangle.  
(You do not need to solve the equation)



$$20p^2 = 38$$

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