

## Week 9

### **This week in a nutshell:**

Again, in week 3, the breadth of knowledge required may lead to students needing extra time. When looking at surface area and volume, be sure to stress the importance of correct units. For the questions on factorising, encourage students to self check by expanding the brackets they have as answers.

**Question 1:** Factorising

**Question 2:** Addition & Subtraction (Fractions)

**Question 3:** Time

**Question 4:** Surface area and volume

**Question 5:** Coordinates

There are no suggestions for discussion this half term. As the topics are revision of previously covered material, any conversations should be used to deal with remaining difficulties or misconceptions that arise during the week.

## Week 9: Day 1

1) Factorise:

a)  $2x + 6$

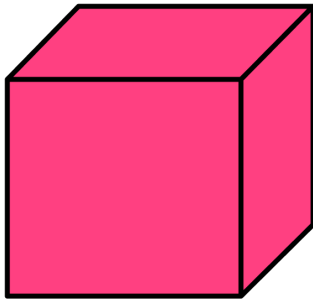
b)  $5y - 10$

2) a)  $\frac{1}{2} + \frac{1}{2} =$

b)  $\frac{3}{4} - \frac{1}{4} =$

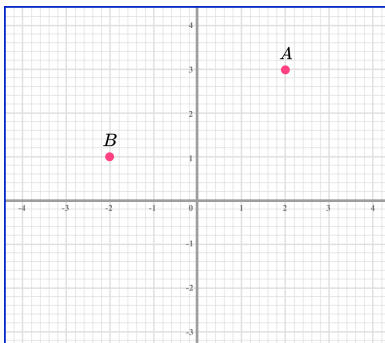
3) Express 7:45pm using 24 hour clock notation.

4) Work out the volume of the cube below.



6cm

5) Write down the coordinates of point A and point B.



## Week 9: Day 1 Answers

1) Factorise:

a)  $2x + 6$      $2(x + 3)$

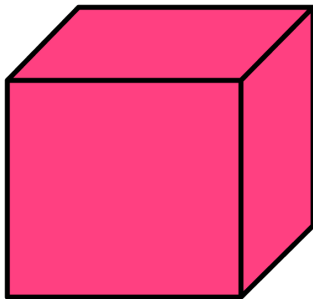
b)  $5y - 10$      $5(y - 2)$

2) a)  $\frac{1}{2} + \frac{1}{2} = 1$

b)  $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$  or  $\frac{1}{2}$

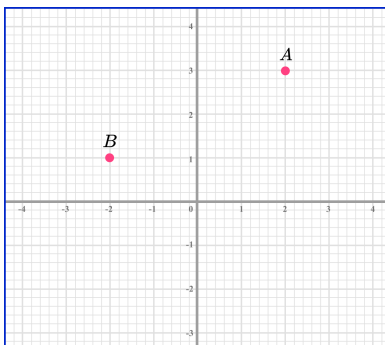
3) Express 7:45pm using 24 hour clock notation.     $19:45$

4) Work out the volume of the cube below.     $216\text{cm}^3$



$6\text{cm}$

5) Write down the coordinates of point A and point B.



$A (2, 3)$      $B (-2, 1)$

## Week 9: Day 2

1) Factorise:

a)  $3x + 6$

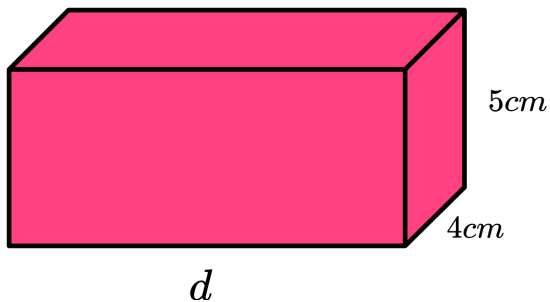
b)  $15y - 10$

2) a)  $\frac{4}{5} - \frac{2}{5} =$

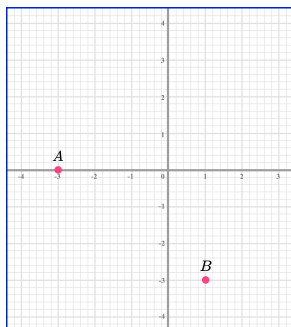
b)  $\frac{1}{2} + \frac{1}{4} =$

3) How many minutes are there in  $2\frac{1}{2}$  hours?

4) The volume of this cuboid is  $240\text{cm}^3$ . What is the length of edge  $d$ ?



5) Write down the coordinates of point A and point B.



## Week 9: Day 2 Answers

1) Factorise:

a)  $3x + 6$      $3(x + 2)$

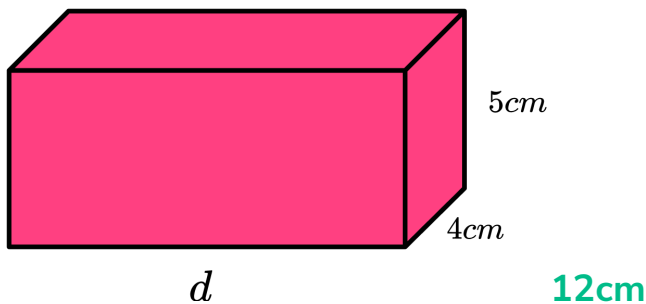
b)  $15y - 10$      $5(3y - 2)$

2) a)  $\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$

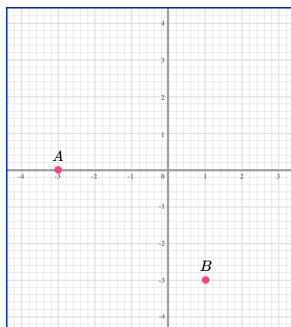
b)  $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$

3) How many minutes are there in  $2\frac{1}{2}$  hours?    **150**

4) The volume of this cuboid is  $240\text{cm}^3$ . What is the length of edge  $d$ ?



5) Write down the coordinates of point A and point B.



**A (-3, 0) B (1, -3)**

## Week 9: Day 3

1) Factorise:

a)  $6x + 16$

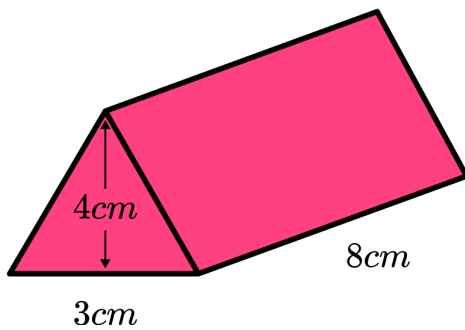
b)  $3y^2 - 15$

2) a)  $\frac{1}{7} + \frac{1}{9} =$

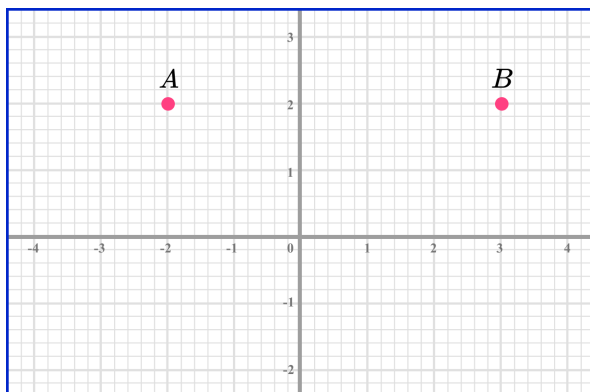
b)  $\frac{5}{8} - \frac{1}{4} =$

3) How many minutes are there in one day?

4) Calculate the volume of this triangular prism.



5) What is the distance between point A and point B?



## Week 9: Day 3 Answers

1) Factorise:

a)  $6x + 16$      $2(3x + 8)$

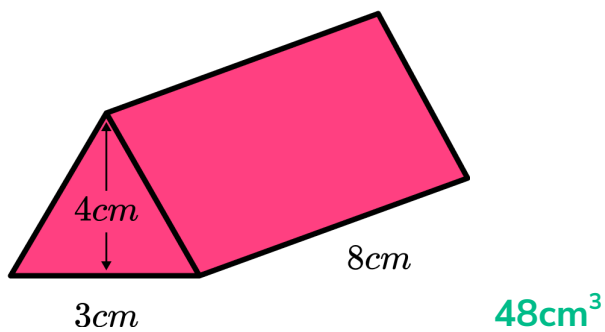
b)  $3y^2 - 15$      $3(y^2 - 5)$

2) a)  $\frac{1}{7} + \frac{1}{9} = \frac{16}{63}$

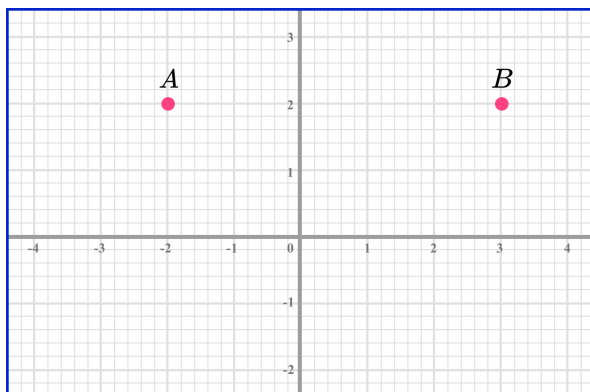
b)  $\frac{5}{8} - \frac{1}{4} = \frac{3}{8}$

3) How many minutes are there in one day?    **1440**

4) Calculate the volume of this triangular prism.



5) What is the distance between point A and point B?



**5 units**

## Week 9: Day 4

1) Factorise:

a)  $x^2 - 6wx$

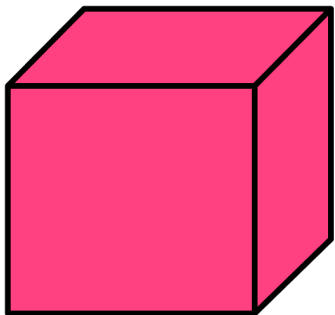
b)  $12y + 10z$

2) a)  $1 - \frac{3}{7} =$

b)  $\frac{2}{3} + \frac{1}{6} =$

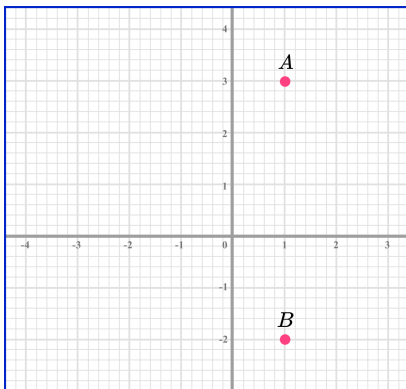
3) How many hours are there in one week?

4) Work out the surface area of this cube.



$7mm$

5) What is the distance between point A and point B?



## Week 9: Day 4 Answers

1) Factorise:

a)  $x^2 - 6wx$      $x(x - 6w)$

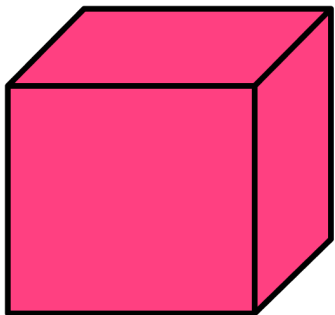
b)  $12y + 10z$      $2(6y + 5z)$

2) a)  $1 - \frac{3}{7} = \frac{4}{7}$

b)  $\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$

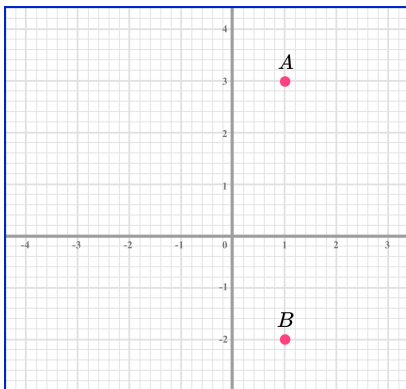
3) How many hours are there in one week? **168**

4) Work out the surface area of this cube.  **$294\text{mm}^2$**



$7\text{mm}$

5) What is the distance between point A and point B?



**5 units**

## Week 9: Day 5

1) Factorise:

a)  $3x + 6y - 12xy$

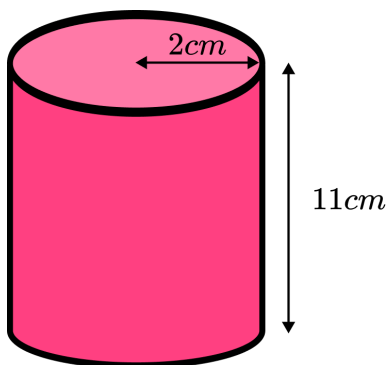
b)  $4y^2 - 10xy + 6yz$

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

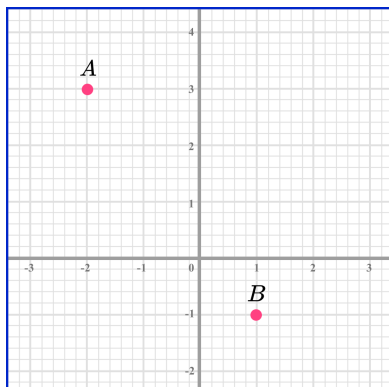
b)  $\frac{7}{8} - \frac{1}{3} =$

3) What fraction of 1 hour is 360 seconds?

4) Determine the volume of the cylinder.



5) What is the distance between point A and point B?



## Week 9: Day 5 Answers

1) Factorise:

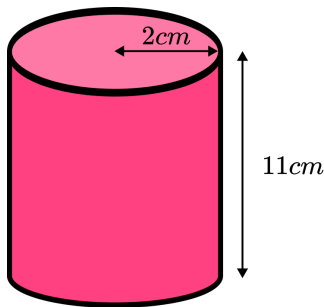
a)  $3x + 6y - 12xy$      $3(x + 2y - 4xy)$

b)  $4y^2 - 10xy + 6yz$      $2y(2y - 5x + 3z)$

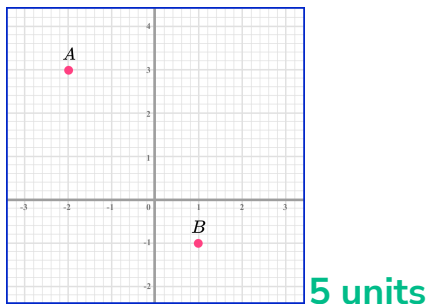
2) a)  $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \frac{13}{12}$  or  $1 \frac{1}{12}$       b)  $\frac{7}{8} - \frac{1}{3} = \frac{13}{24}$

3) What fraction of 1 hour is 360 seconds?  $\frac{1}{10}$

4) Determine the volume of the cylinder.  $44\pi$  or  $138.23\text{cm}^3$  (2dp)



5) What is the distance between point A and point B?



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