FAIRFAX SINCERITAS LABORIS

KEY STAGE 3 MATHEMATICS YEAR 9 Revision Topic List – June 2025

All groups need to know	Had a try	Nearly there	Got it!
Factors, multiples and primes			
Percentages			
Solving equations			
Ratio			
Angles facts			
Lines parallel to the x or y axis			
Rearranging formulae			
Area of compound shapes with rectangles			
Reflection			
Congruent shapes			
Properties of 3D shapes			
Conversions			
Plans and elevations			
Similar shapes			
Pythagoras' theorem			
Best value/Best buys			
Rotation			
Cylinders			
Angles in polygons			
9MFR, 9MFA, 9MFN, 9MXR, 9MXA & 9MXN also need to know for the extension paper			
Coordinates			
Types of numbers (rational and irrational)			
Angles in polygons			
Prisms			

The questions below are for pupils doing the extension paper.
28-34

Year 9 - revision questions

1. List 5 multiples of 6

2. List all the factors of 24

3. Write down the first 10 prime numbers

4. Write down a prime number between 30 and 40

5. Convert the following percentages to decimals:

18%

60%

4%

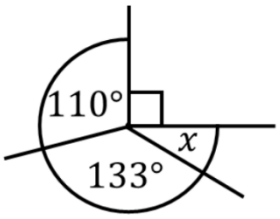
6. Solve 5x = 30

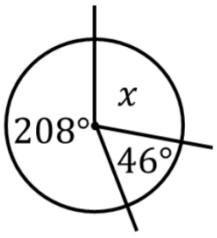
7. Simplify the following ratios fully

20:30

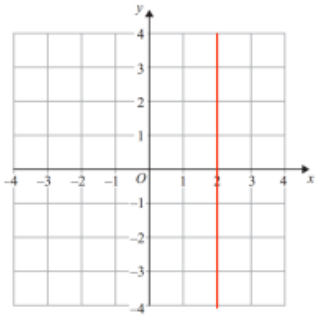
18:42

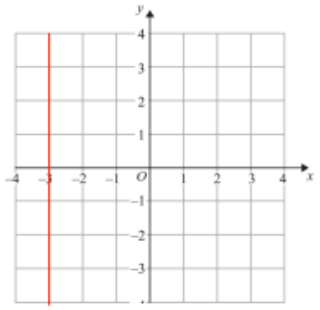
8. Work out the size of angle x in each question (give a reason for your answer):

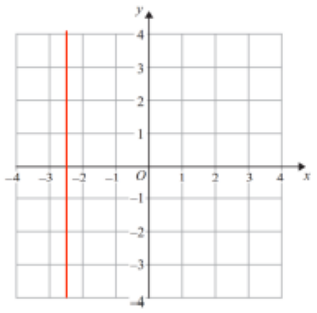


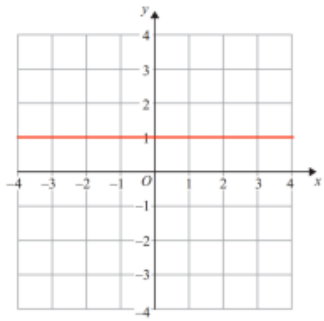


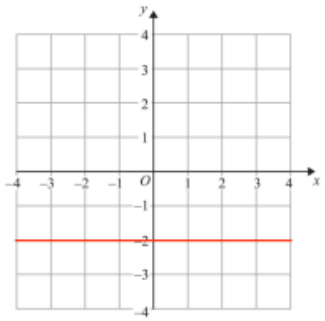
9. Write down the equation of each line below:

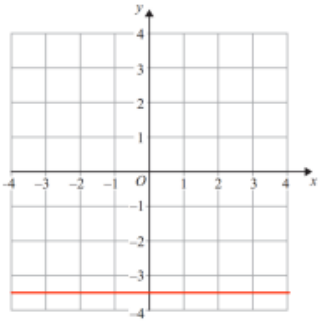
(a) 

(b) 

(c) 

(a) 

(b) 

(c) 

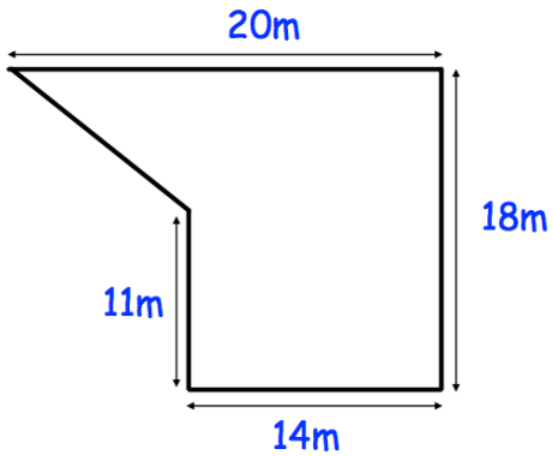
10.

Make x the subject

1. $x - 2 = m$
2. $\frac{x}{6} = g$
3. $x + 2p = h$
4. $xy = 3$

11.

Shown is the plan of a small field.

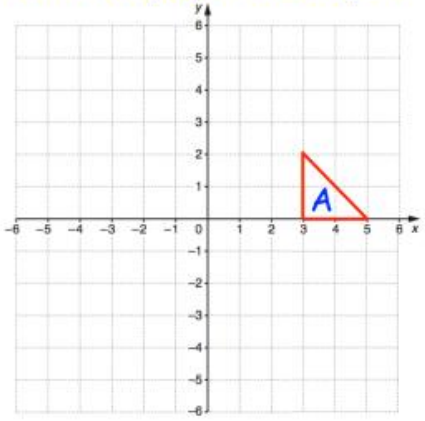


Thomas is going to keep some chickens in the field.
Each chicken needs 5m²

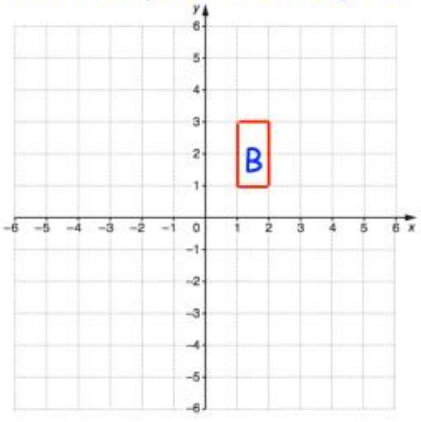
Work out the greatest number of chickens Thomas can keep in the field.

12.

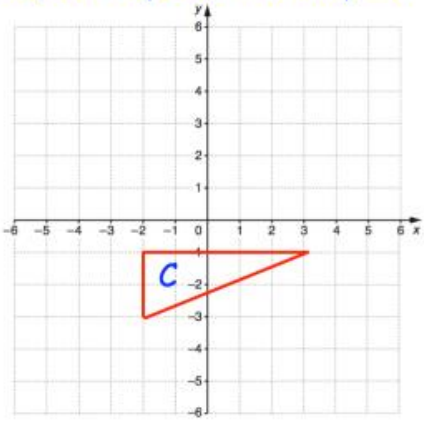
Reflect shape A in the line y = x



Reflect shape B in the line y = -x

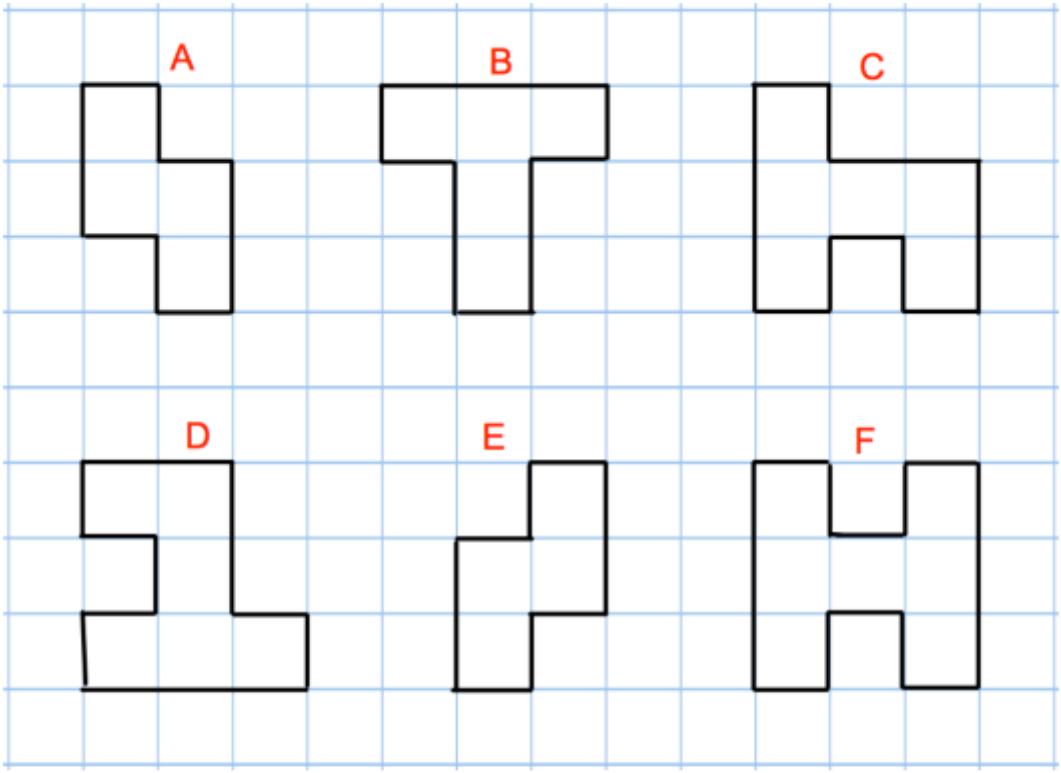


Reflect shape C in the line y = x



13.

1. Here are six shapes.



(a) Which shape is congruent to shape E?

.....

(1)

(b) Name two other congruent shapes.

..... and .....

(1)

14.

The shape above is a cuboid.

(b) How many faces does a cuboid have?

.....

(1)

(c) How many edges does a cuboid have?

.....

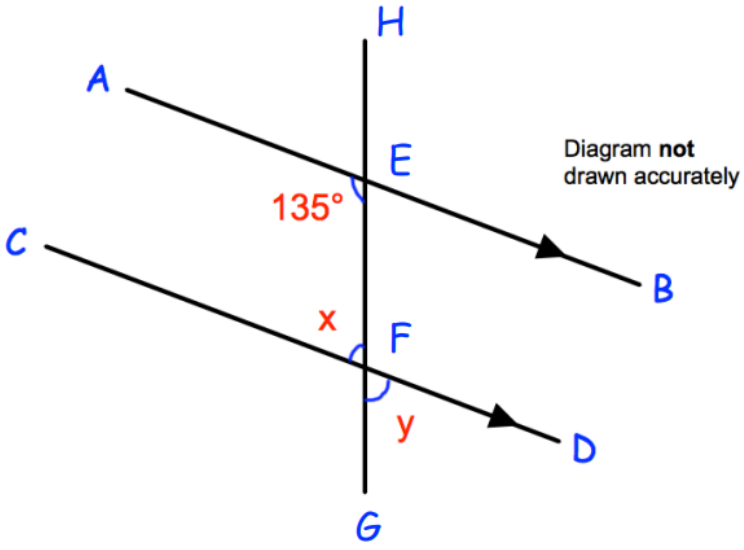
(1)

(d) How many vertices does a cuboid have?

.....

(1)

15. In the diagram AB is parallel to CD.



(a) Work out the size of the angle marked x.

.....°

Give a reason for your answer.

.....

.....

(2)

(b) Write down the value of y.

.....°

Give a reason for your answer.

.....

.....

(2)

16. Sophie went to Spain.
She changed £225 into euros (€).

The exchange rate was £1 = €1.14

(a) Change £225 into euros (€).

€.....

(2)

On her return to England, Sophie changed €66 into pounds (£)

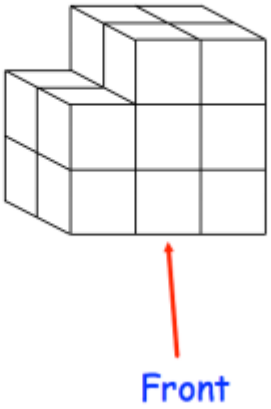
The new exchange rate was £1 = €1.20

(b) Change €66 into pounds (£).

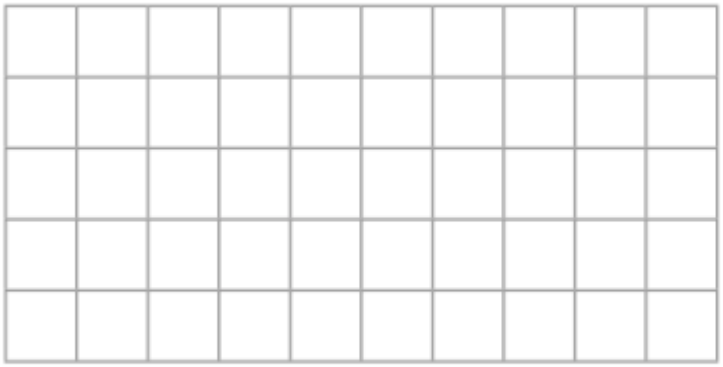
£.....

(2)

17. The diagram below shows a shape made with centimetre cubes.

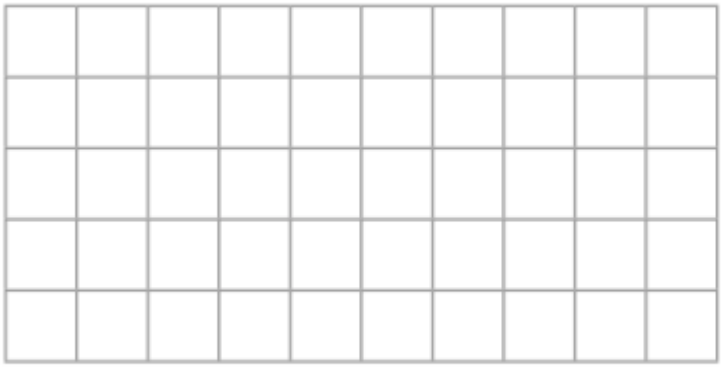


(a) On the centimetre square grid, draw the front elevation.



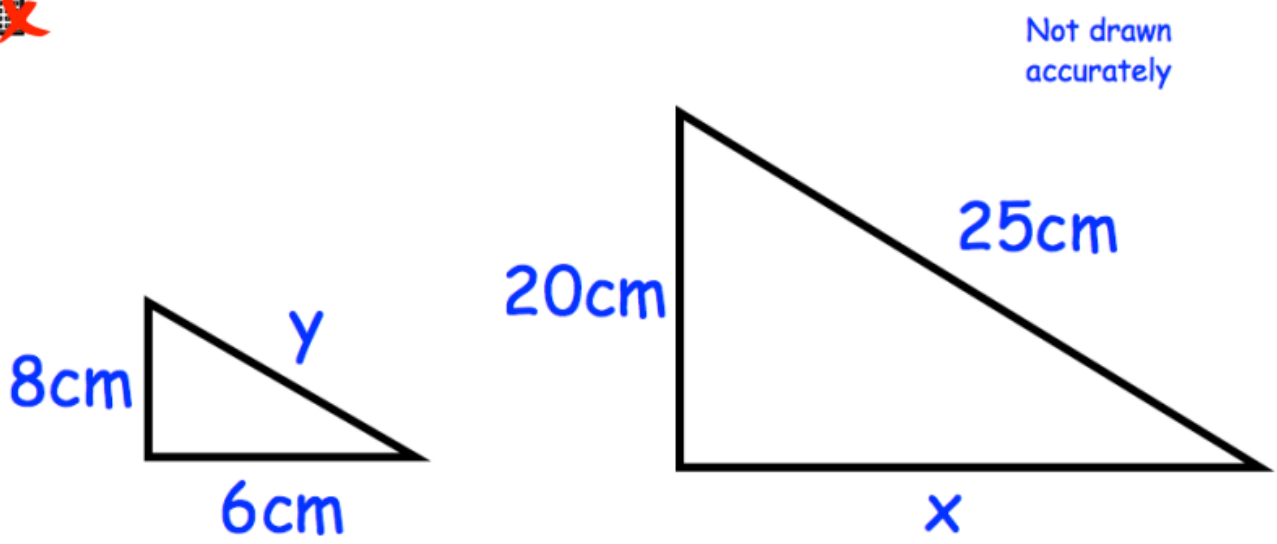
(2)

(b) On the centimetre square grid, draw the side elevation.



(2)

18. Shown below are similar shapes. Work out the size of x and y.

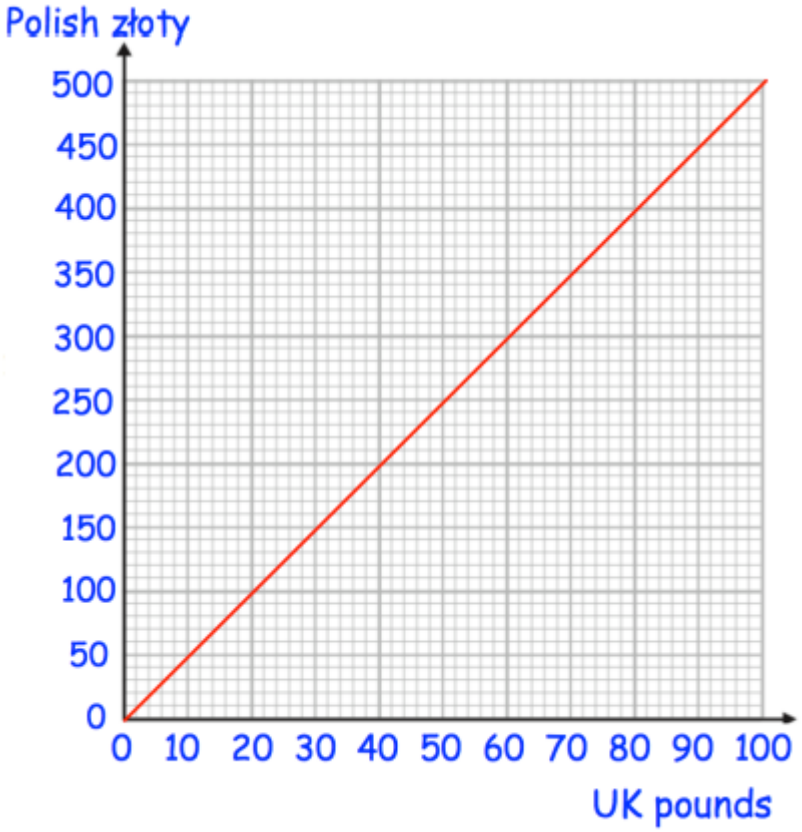


19.

A red light flashes every 6 seconds.
A yellow light flashes every 4 seconds.
They both flash at the same time.

After how many seconds will they next both flash at the same time?

20.



(a) Change £20 into Polish złoty

(b) Change £90 into Polish złoty

(c) Change 300zł into UK pounds

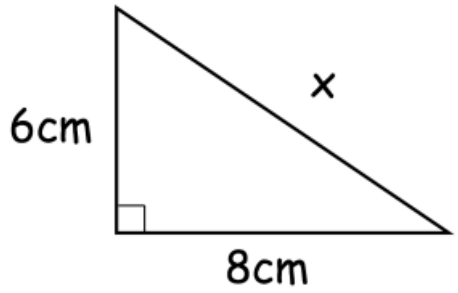
(d) Change 450zł into UK pounds

(e) Change £50 into Polish złoty

(f) Change £200 into Polish złoty

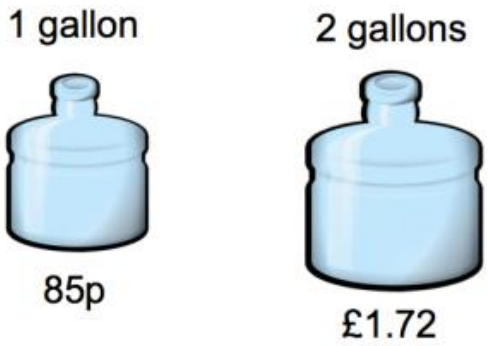
(g) Change 800zł into UK pounds

21. Shown below is a right angled triangle.



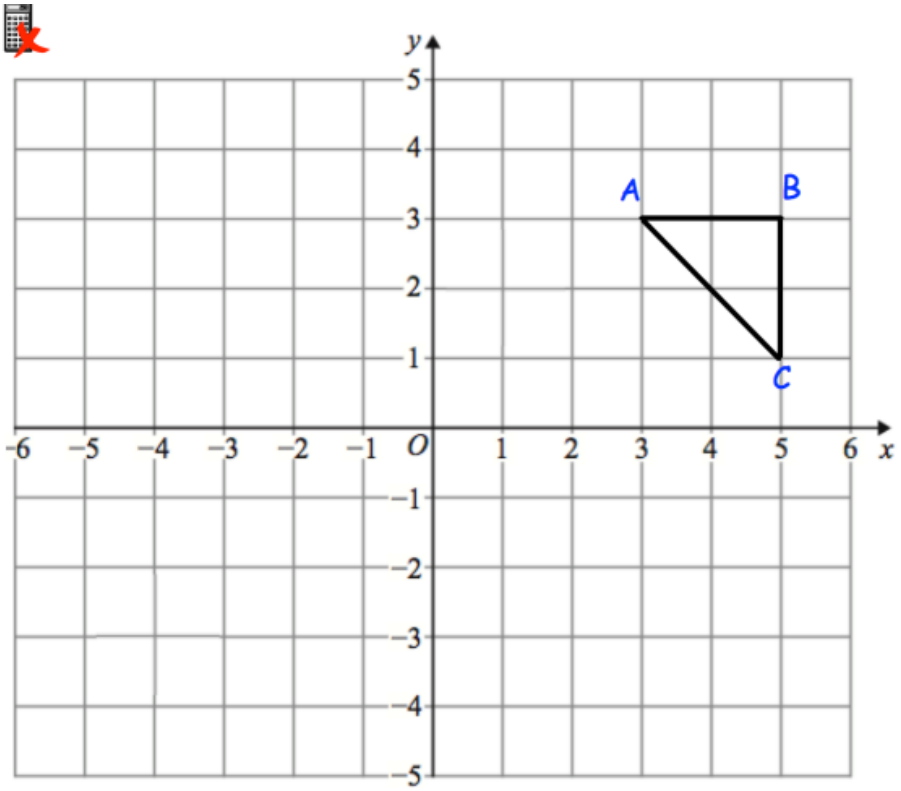
Use Pythagoras' theorem to work out the value of x.

22. Water is sold in two sizes.



Which is the better value for money?
You must show all your working.

23.



Rotate triangle ABC 180° about centre (1, 0)

(3)

24. At a rugby match, the ratio of children to adults is 2 : 3
There are 80 children in the crowd.
Each adult ticket costs £8
Each child ticket costs a quarter of the adult ticket.

Work out the total money made from ticket sales.

25. Each exterior angle of a regular polygon is 20°

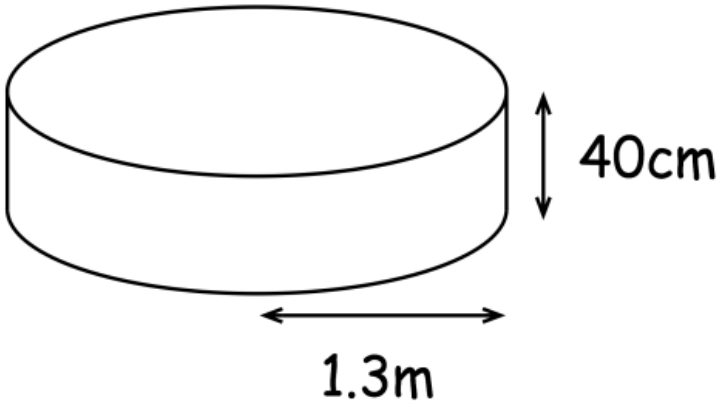
Work out the number of sides of the polygon.

26. Patrick invested money into a special savers bank account.
Each year money in the account earns 4% interest.

After one year, the total amount of money in the account was £291.20

How much did Patrick invest?

27. Shown below is a paddling pool with radius 1.3m and depth 40cm

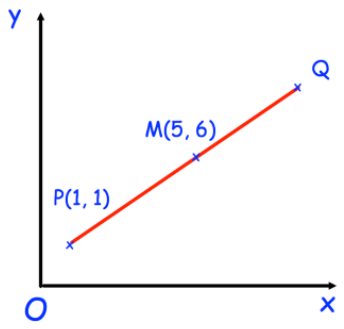


Felix is filling the padding pool at a rate of 15 litres a minute.

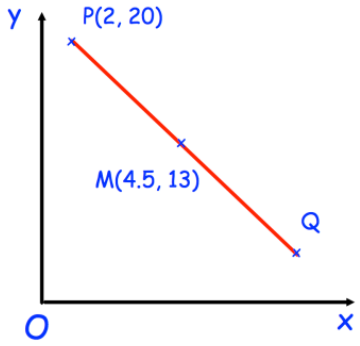
Work out how long it takes to fill the paddling pool.
Give your answer to the nearest minute.

28. M is the midpoint of PQ in each diagram below.
Find the coordinates of Q in each diagram.

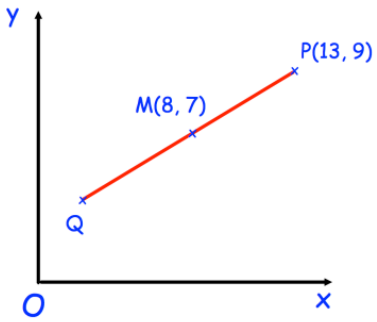
(a)



(b)



(c)



29. The value of a painting rises from £120,000 to £192,000.

Work out the percentage increase in the value of the painting.

30. A car was bought for £18000.
Its value depreciated by 15% each year for the first three years.

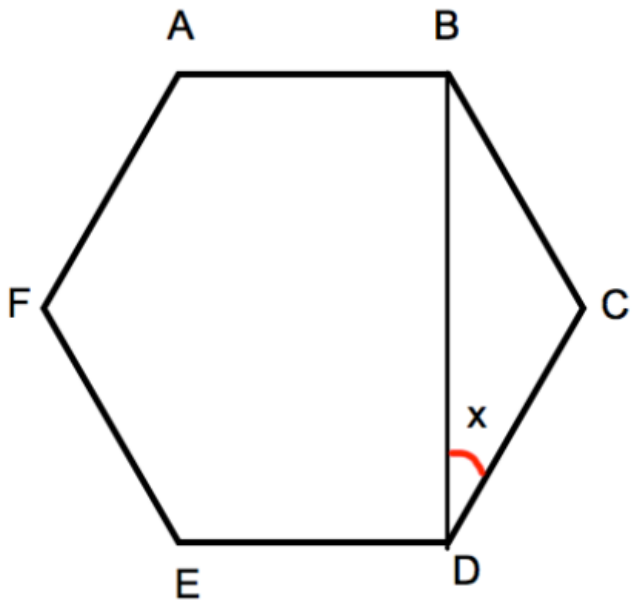
What was its value at the end of the three years?

31. Circle the rational numbers

π $\sqrt{9}$ $0.1111\ldots$

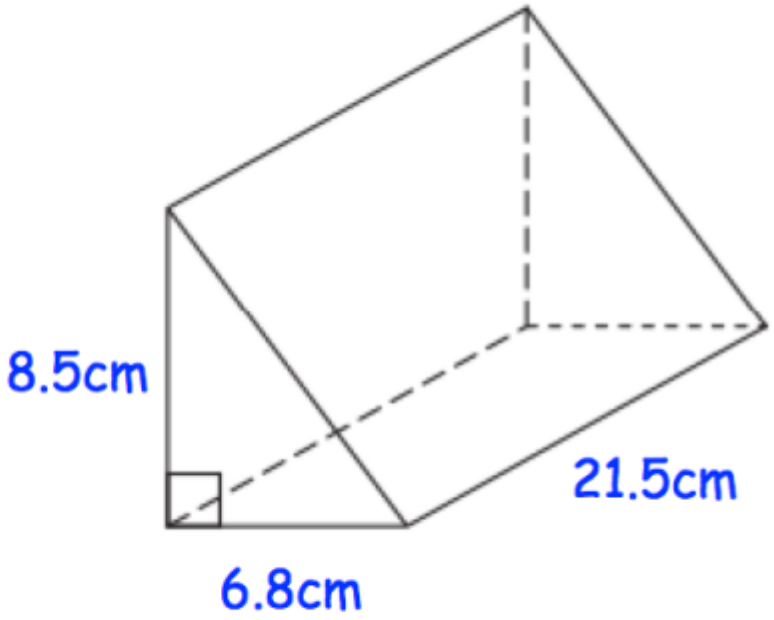
4 $\sqrt{2}$ $\frac{1}{3}$

32. Shown below is a regular hexagon ABCDEF.



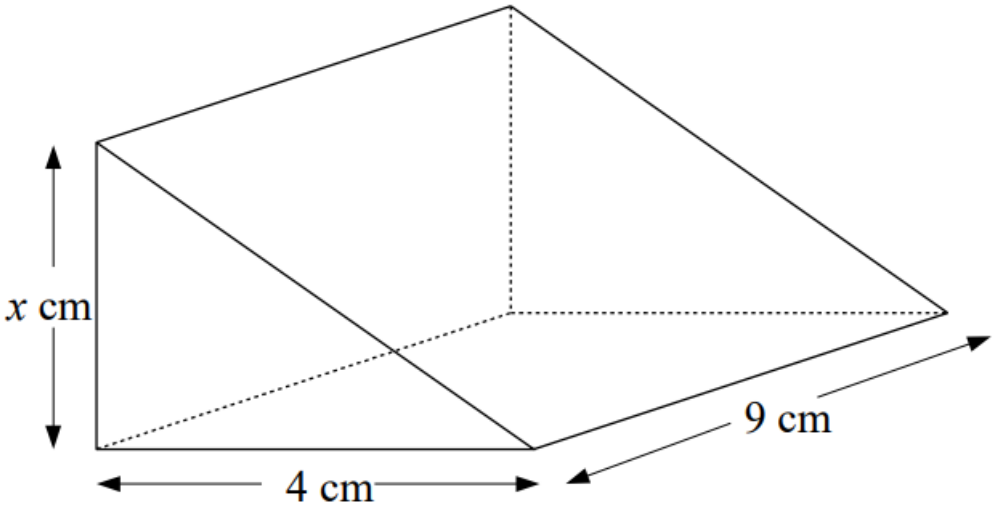
Calculate angle x.

33. Shown below is a triangular prism.



Find the volume of the triangular prism.

34.



The diagram shows a triangular prism.
The cross-section of the prism is a right angled triangle.

The volume of the prism is 198 cm^3

Calculate the value of x