

DO NOT WRITE IN THIS AREA

Answer ALL TWENTY SIX questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Write in figures the number **seventy thousand, two hundred and sixteen**.

.....
(1)

(b) Write down a common factor of 20 and 30

.....
(1)

(c) Write down a square number that is between 20 and 40

.....
(1)

(d) Find the cube root of 3375

.....
(1)

(e) Write brackets in the following calculation so that the answer is correct.

$$42 - 6 \div 6 - 3 = 40$$

(1)

(Total for Question 1 is 5 marks)



2 Egor rolled a dice 24 times.
Here are his results.

2	3	5	4	6	2
1	3	3	5	1	3
3	5	5	6	2	5
4	3	4	3	3	4

(a) Complete the frequency table for Egor's results.

Number on dice	Tally	Frequency
1		
2		
3		
4		
5		
6		

(2)

(b) Write down the mode of the numbers that Egor rolled.

.....
(1)

Egor thinks the dice he rolled is biased.

(c) Give a reason why the results could show that the dice is biased.

.....

.....

.....
(1)

(Total for Question 2 is 4 marks)



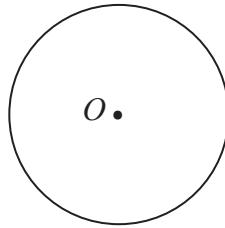
3 The diagram shows a line AB .



- (a) At the point A draw an acute angle.
Label your acute angle a .

(1)

The diagram shows a circle with centre O .



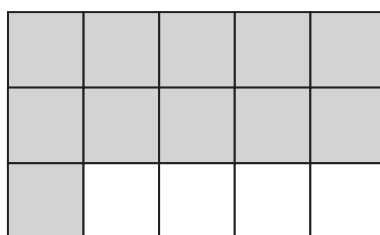
- (b) Draw a diameter of the circle.

(1)

(Total for Question 3 is 2 marks)



4 Here is a shape made from squares.



(a) What fraction of this shape is shaded?

.....
(1)

(b) Write $\frac{23}{5}$ as a mixed number.

.....
(1)

(c) Write 0.23 as a fraction.

.....
(1)

(d) Write $\frac{2}{5}$ as a decimal.

.....
(1)

(e) Write these decimals in order of size.
Start with the smallest decimal.

3.61 3.9 3.555 3.82 3.7

.....
(1)

(Total for Question 4 is 5 marks)



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5

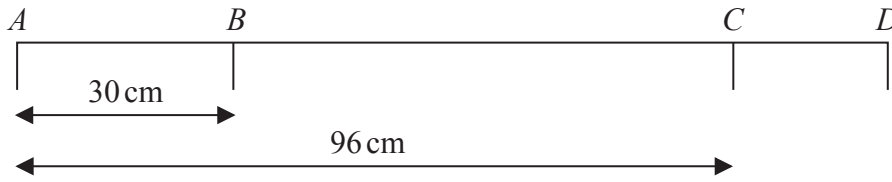


Diagram NOT accurately drawn

In the diagram, A , B , C and D are points on a straight line.

$$AB = 30 \text{ cm} \quad AC = 96 \text{ cm} \quad BC = 3CD$$

Work out the length of AD .

..... cm

(Total for Question 5 is 3 marks)

- 6 Diego left home on Tuesday at 0750
He arrived home on the same Tuesday at 1735

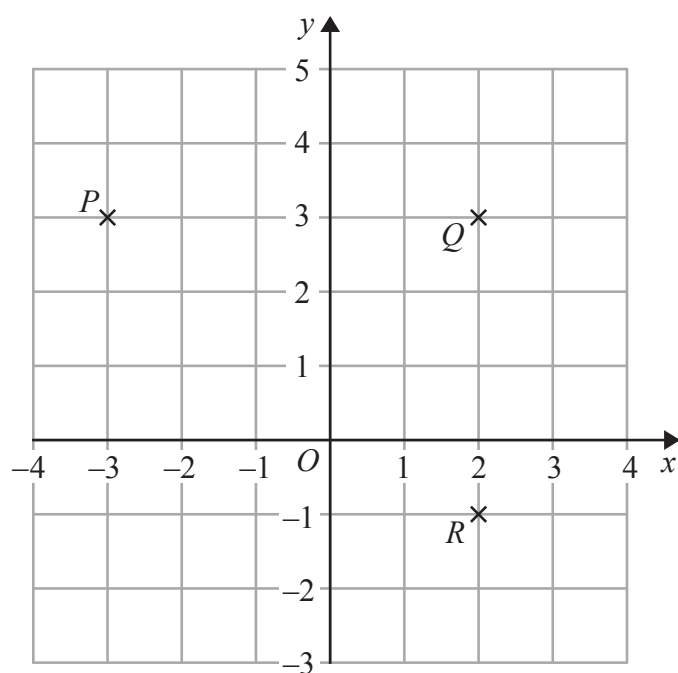
Work out the length of time that Diego was away from home on Tuesday.
Give your answer in hours and minutes.

..... hours minutes

(Total for Question 6 is 2 marks)



7 P , Q and R are three points marked on a grid.



(a) Write down the coordinates of point Q .

(.....,)
(1)

S is the point such that $PQRS$ is a rectangle.

(b) Find the coordinates of point S .

(.....,)
(1)

(c) Find the coordinates of the midpoint of PR .

(.....,)
(2)

(Total for Question 7 is 4 marks)



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- 8 Lin has 60 bricks.
He puts his 60 bricks into a bag.

Some information about the 60 bricks is shown in the two-way table.

	orange	blue	yellow	Total
small		7	14	
large	13			33
Total		23		60

- (a) Complete the two-way table.

(3)

One of the bricks is taken at random from the bag.

- (b) Write down the probability that this brick is blue.

.....
(1)

Lin now puts all his large bricks into a sack.
He takes at random a large brick from the sack.

- (c) Write down the probability that this large brick is orange.

.....
(2)

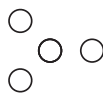
(Total for Question 8 is 6 marks)



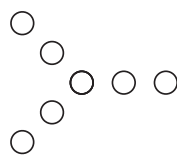
9 Here is a sequence of patterns made from circles.



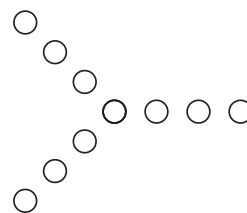
Pattern number 1



Pattern number 2



Pattern number 3



Pattern number 4

(a) In the space below, draw Pattern number 5

(1)

(b) Complete the table.

Pattern number	1	2	3	4	5	6
Number of circles	1	4	7	10		

(1)

(c) Work out the number of circles in Pattern number 8

(1)

C is the number of circles in Pattern number P

(d) Write down a formula for C in terms of P

(2)

