Answer ALL TWENTY SIX questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 The table gives information about the lengths of five canals.

Name of canal	Length (km)
Danube-Black Sea	95.6
Kiel	98.4
Manchester	58.3
Panama	77.1
Suez	193.3

(a) Which of these canals has the least length?

(1)

The length of the Panama Canal is 77.1 km.

(b) Write 77.1 correct to the nearest 10

(1)

The Kiel Canal was opened on June 20th 1895

(c) How many years old was the Kiel Canal on June 20th 2000?

years

(1)

(Total for Question 1 is 3 marks)

P 5 9 0 2 1 A 0 3 2 8

2 (a) Write these fractions in order of size.
Start with the smallest fraction.

$$\frac{1}{6} \qquad \frac{1}{10} \qquad \frac{3}{4} \qquad \frac{1}{2}$$

(1)

(b) Write $\frac{1}{4}$ as a decimal.

(1)

(c) Write $\frac{1}{5}$ as a percentage.

.... %

(1)
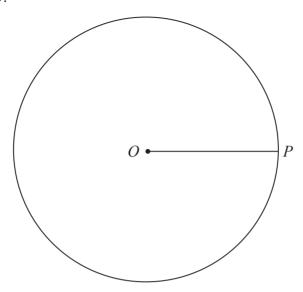
(d) Work out $1 - \frac{5}{8}$

(1)

(Total for Question 2 is 4 marks)

3 Here is a circle, centre *O*.

(a) Measure the radius, *OP*, of the circle.
Give your answer in centimetres.

.... cm

(1)

The point *Q* is 2 cm from *O*.
The angle between *OP* and *OQ* is a right angle.

(b) Mark with a cross (×) a possible position of the point *Q*.
Label the point *Q*.

(2)

(Total for Question 3 is 3 marks)

P 5 9 0 2 1 A 0 5 2 8

4 The bar chart gives information about the volume of fresh water made per day from sea water in each of four countries in 2015

(a) Write down the volume of fresh water made per day from sea water in Saudi Arabia in 2015

.... million m^3
(1)

More fresh water was made per day from sea water in the UAE in 2015 than was made per day from sea water in Spain in 2015

(b) How much more?

.... million m^3
(2)

1.7 million m^3 of fresh water was made per day from sea water in Qatar in 2015

(c) Draw a bar on the bar chart to show this information.

(1)

(Total for Question 4 is 4 marks)

5 Here is a list of numbers.

$$12 \qquad 14 \qquad 15 \qquad 16 \qquad 18 \qquad 20 \qquad 22 \qquad 24$$

(a) Which number in the list is a multiple of both 6 and 9?

(1)

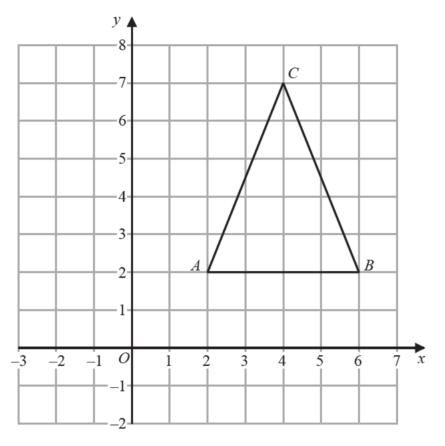Two numbers in the list are factors of 90

(b) Which two numbers?

and

(2)

(c) Write down two numbers in the list that have a sum that is a prime number.

and

(1)

(Total for Question 5 is 4 marks)

6 The diagram shows a triangle ABC drawn on a grid.

(a) Write down the coordinates of point B.

(,   )

(1)

(b) On the grid, mark with a cross ($\times$) the point with coordinates $(4, -1)$
Label this point D.

(1)

(c) What type of triangle is triangle ABC?

(1)

(d) Find the coordinates of the midpoint of the line AC.

(,   )

(2)

(Total for Question 6 is 5 marks)

7 Juan and Gabriella and their two children are going on a train journey from Madrid.

The cost of an adult ticket for this train journey is 53.50 euros.
The cost of a child ticket for this train journey is 60% of the cost of the adult ticket.

Juan buys 2 adult tickets and 2 child tickets.
He pays with two 100 euro notes.

How much change should he get?

.... euros

(Total for Question 7 is 4 marks)

8 (a) Simplify $5x + 4y - x - y$

(2)

(b) Solve $2t + 3 = 12$

$t =$ ....

(2)

(Total for Question 8 is 4 marks)

9 Here is a sequence of patterns made from white counters and black counters.

○ ● ○   ● ○ ● ○ ●   ○ ● ○ ● ○ ● ○
Pattern   Pattern   Pattern
number 1   number 2   number 3

(a) In the space below, complete Pattern number 4

○ ● ○ ● ○ ● ○

(1)

(b) Find the **total** number of counters in Pattern number 6

(1)

(c) Work out the number of **black** counters in Pattern number 14

(1)

(d) Work out the **total** number of counters in Pattern number 50

(2)

(Total for Question 9 is 5 marks)

10 There are 20 beads in a box.

       7 of the beads are red.
       11 of the beads are green.
       The rest of the beads are yellow.

Jan takes at random a bead from the box.

(a) Write down the probability that she takes a red bead.

(1)

(b) Find the probability that she takes a red bead or a yellow bead.

(2)

There are 26 counters in a bag.

       5 of the counters are pink.
       10 of the counters are blue.
       The rest of the counters are white.

Jan puts some more pink counters into the bag.
She then takes some blue counters out of the bag.
After she has done this there are still 26 counters in the bag.

Jan then takes at random a counter from the bag.

The probability that she takes a pink counter is $\dfrac{1}{2}$

(c) What is the probability that she takes a blue counter?

(3)

(Total for Question 10 is 6 marks)