




9 In a shop, pens cost 34 cents each.

The shop has a special offer on the pens.

Special offer

Pay for 2 pens and get 1 free

| | | |
|---|---|--|
|  |  |  |
| 34 cents | 34 cents | Free |

Moritz wants 25 pens.

Work out how much Moritz has to pay for 25 pens.

.....cents

(Total for Question 9 is 3 marks)

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

$$\frac{3}{8} \quad \frac{1}{4} \quad \frac{7}{20} \quad \frac{5}{16}$$

.....
(2)

There are only green beads and red beads in a bag.

The ratio of the number of green beads to the number of red beads is 5 : 9

- (b) What fraction of the beads in the bag are green beads?

.....
(1)

(Total for Question 10 is 3 marks)



11 The diagram shows a square $ABCD$ and a regular pentagon $CDEFG$.

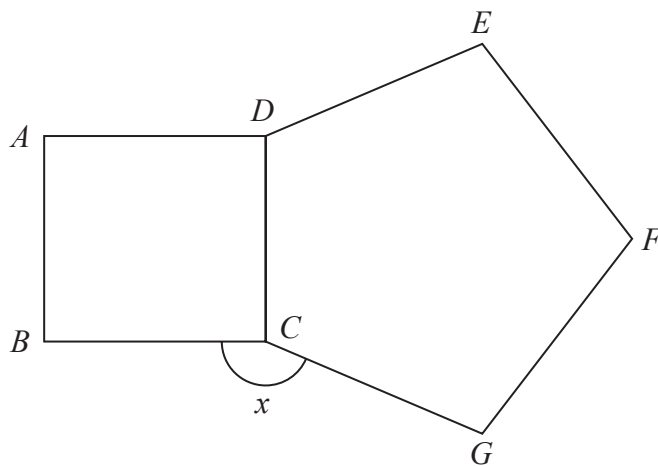


Diagram **NOT**
accurately drawn

Work out the size of the angle marked x .

.....
(Total for Question 11 is 3 marks)

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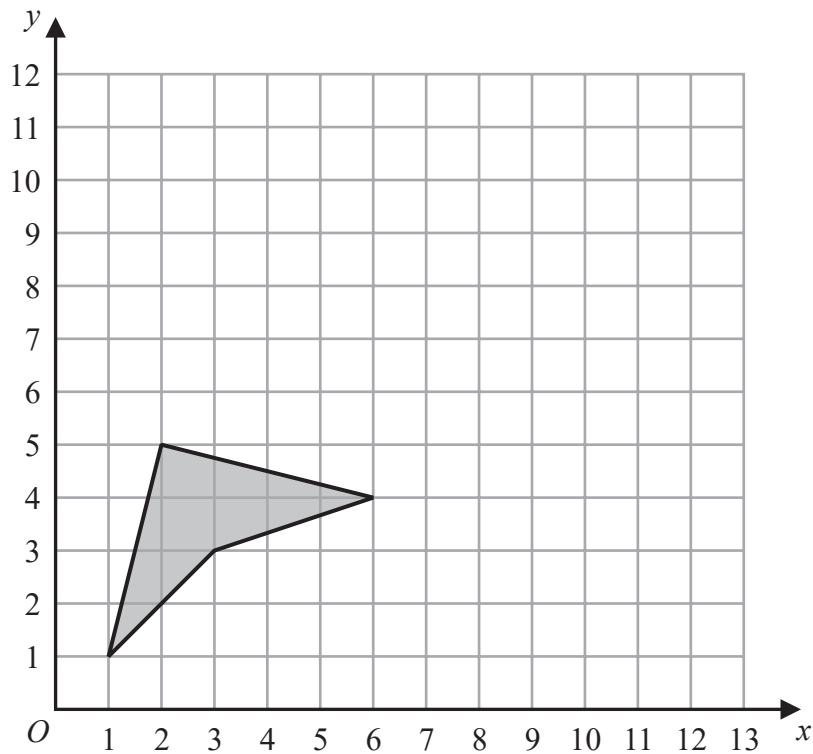


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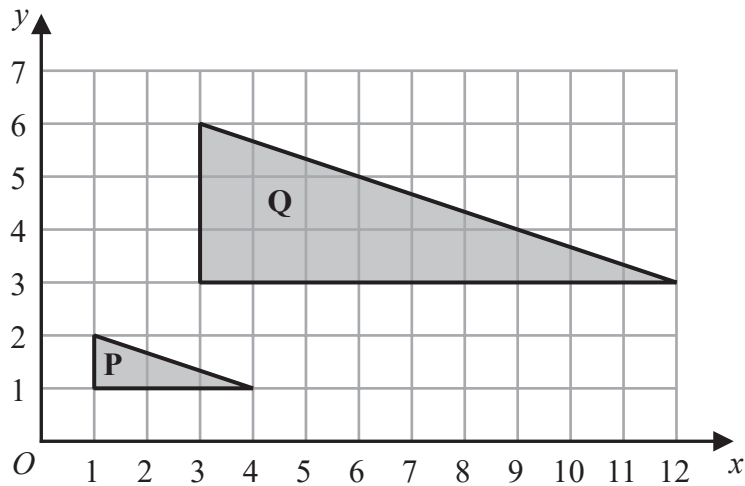
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12 The diagram shows a shaded shape on a grid.



(a) On the grid, reflect the shape in the line with equation $x = 6$ (2)

The diagram below shows triangle **P** and triangle **Q** drawn on a grid.



(b) Describe fully the single transformation that maps triangle **P** onto triangle **Q**. (3)

.....
.....

(Total for Question 12 is 5 marks)



- 13 Buses leave a bus station to go to the hospital every 16 minutes.
Buses leave the same bus station to go to the college every 20 minutes.

At 9 am a bus leaves the bus station to go to the hospital and at the same time a bus leaves the bus station to go to the college.

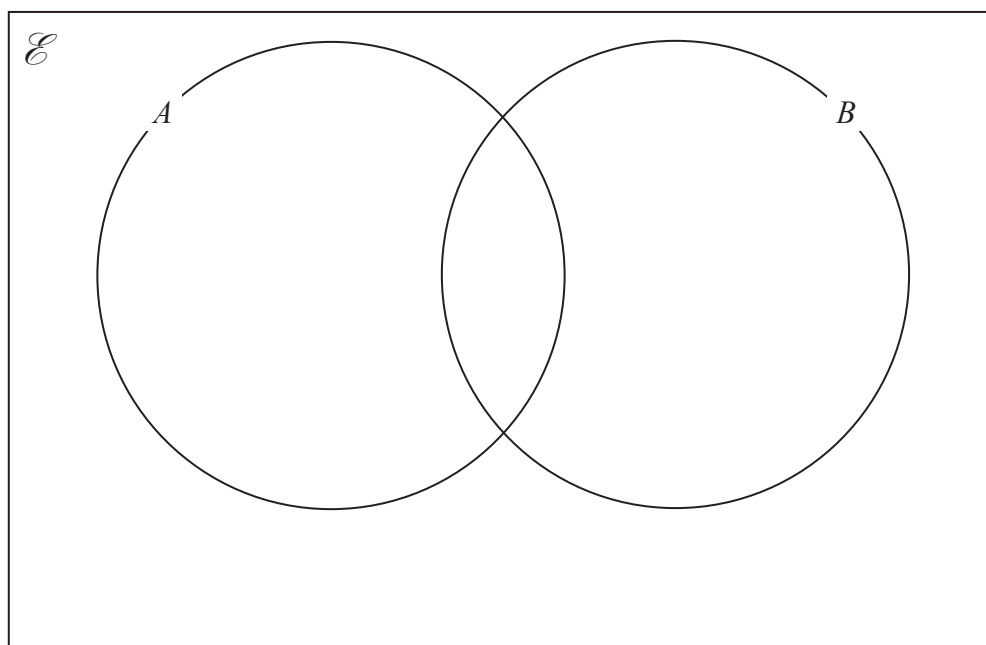
Work out the next time that a bus leaves the bus station to go to the hospital and at the same time a bus leaves the bus station to go to the college.

.....
(Total for Question 13 is 3 marks)

- 14 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$

$A = \{\text{even numbers}\}$

$B = \{\text{multiples of 3}\}$



Complete the Venn diagram for the sets \mathcal{E} , A and B .

(Total for Question 14 is 3 marks)



15 150 students were each asked to name their favourite sport from hockey, rugby and football.

The two-way table gives information about the results.

| | Hockey | Rugby | Football | Total |
|---------|--------|-------|----------|-------|
| Year 10 | | 42 | | 78 |
| Year 11 | 27 | | | |
| Total | 39 | 58 | | 150 |

(a) Complete the two-way table.

(3)

(b) Work out what percentage of the 150 students are in year 10

.....%

(2)

(Total for Question 15 is 5 marks)



16 A plane flew from Madrid to Dubai.

The distance the plane flew was 5658 km.

The flight time was 8 hours 12 minutes.

Work out the average speed of the plane.

..... km/h

(Total for Question 16 is 3 marks)

17 Here are the first 4 terms of an arithmetic sequence.

85 79 73 67

Find an expression, in terms of n , for the n th term of the sequence.

.....

(Total for Question 17 is 2 marks)

