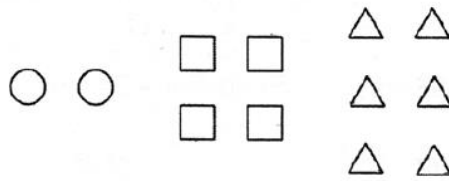Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. You may use an approved calculator.

(10 marks)

1.   The diagram below shows some shapes.

What is the ratio of the total number of shapes to the number of squares? Express your answer in the simplest form.
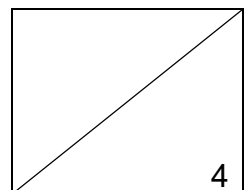
Ans: _____

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2.   15 $\frac{4}{5}$ kg of flour was packed into bags of $\frac{5}{8}$ kg each.
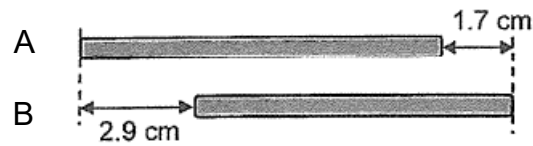
a) What was the maximum number of bags of flour?

Ans: a) _____

b) How much flour was left unpacked?

Ans: b) _____kg

3. The ratio of the length of stick A to the length of stick B is 9 : 8. Find the length of stick A.

A [======================] 1.7 cm

B [<— 2.9 cm —>][==================]

Ans: _____ cm

4. Emily has a roll of stickers. There is a total of 55 star-shaped and heart-shaped stickers on it. At least 3 star-shaped stickers are found between any 2 heart shaped stickers. What is the largest possible number of heart-shaped sticked on the roll of stickers?

Ans: _____

5. Francis used 1-cm cubes to form a cuboid measuring 45 cm by 30 cm by 20 cm. He painted all the faces of the cuboid. How many of the 1-cm cubes in the cuboid have only 2 of the faces painted?
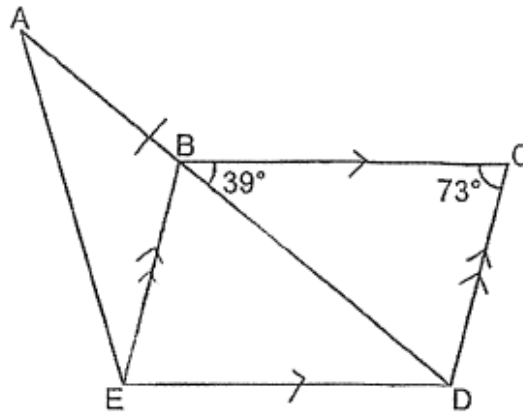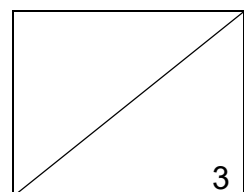
Ans: _____

6

2
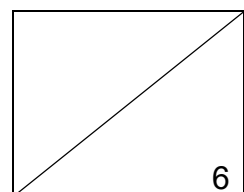
For questions 6 to 17, show your working clearly in the space below each question and write your answers in the spaces provided. The number of marks awarded is shown in brackets [ ] at the end of each question or part-question.

(45 marks)

6. EAD is a triangle and BCDE is a parallelogram. AB = BE. Find ∠EAB.

Ans: _____ [3]

3

7. Mr Kong drove at an average speed of 76 km/h from City A to City B which was 209 km away.

a) What was the duration of the journey? Express your answer in hours and minutes.
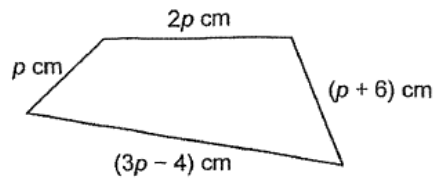
Ans: _____ [1]

b) From City B, he drove for another 2 h 36 min and arrived at City C. The distance between City B and City C was 153.4 km. What was the average speed he drove from City B to City C?
Express your answer in km/h.

Ans: _____ [2]

```
      /
    /
  /
/            3
```
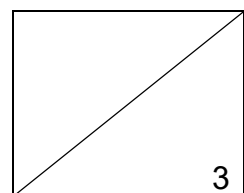
8. Mike had 130 cm of string. He used some of it to make the figure as shown.
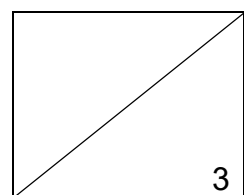
2p cm

p cm

(p + 6) cm

(3p − 4) cm

(a) How much of the string did Oliver use to make the figure? Express your answer in terms of p in the simplest form.

Ans: (a) _____ [1]

(b) After making the figure, Mike had p cm of wire left. What was the value of p?
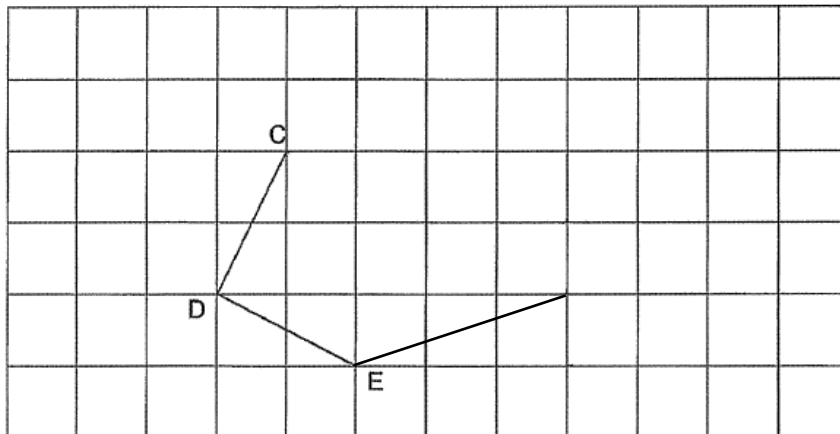
Ans: (b) _____ [2]

3

5

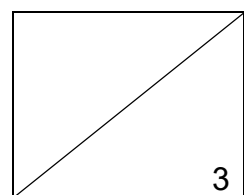9.   In the square grid below, CD and DE are straight lines.

a) Measure and write down the size of ∠CDE.

Ans: _____ [1]

b) Draw two more straight lines to form a trapezium CDEF where
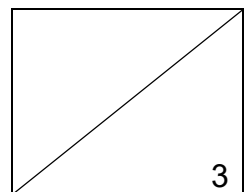CF = 2 x DE. Use a pen to draw your lines and label point F.

Ans: _____ [2]

10. Elsie spent $\frac{2}{5}$ of her money and an additional $50 on a dress. She spent $\frac{3}{5}$ of the remainder and an additional $86 on a bag. She spent half of the money that was left on food for $25. How much money did she have at first?
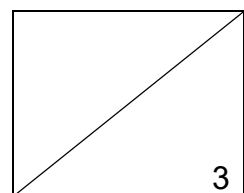
Ans: _____ [3]

3

11. During a contest, Abby, Britney, and Claudia scored an average of 68.5 points. Elaine joined the game and the average score of the four friends became 70.

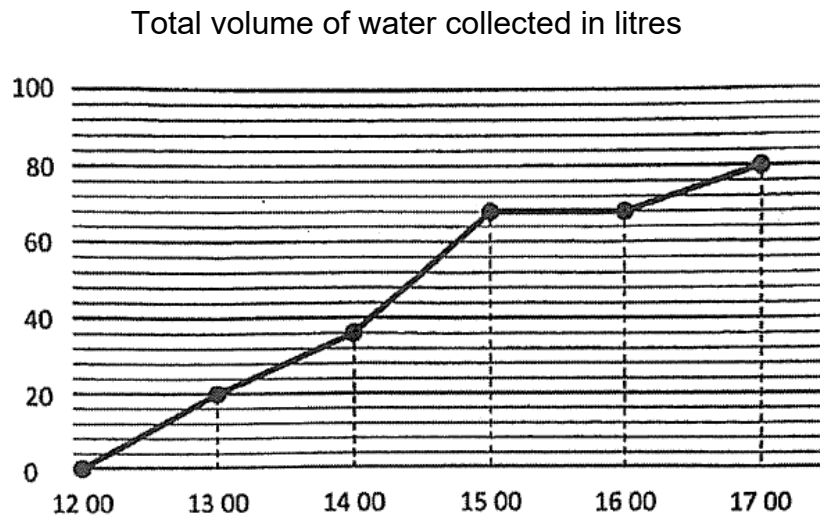(a) How many points did Elaine score?

Ans: (a) _____ [2]

(b) What percentage of the total score did Elaine score? Round your answer to the nearest whole number.

Ans: (b) _____ [1]

3

12. The line graph shows the total volume of water collected in a water tank from 12 00 to 17 00.

Total volume of water collected in litres

a) During which one-hour interval was there no water flowing into the water tank?
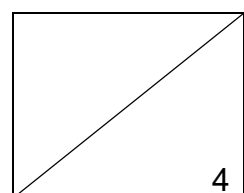
Ans: a) _____ to _____ [1]

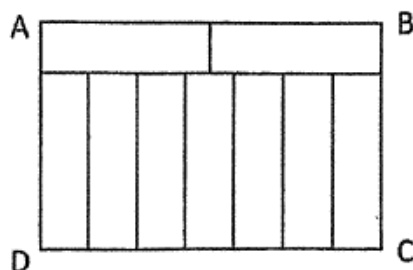b) How much water flowed into the water tank between 13 00 to 14 00?

Ans: b) _____ [1]

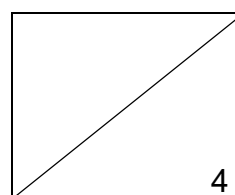c) What was the average volume of water collected per hour?

Ans: c) _____ [2]

4

13. 9 identical rectangles are combined to form a large rectangle ABCD as shown below. The perimeter of Rectangle ABCD is 138 cm. Find the area of rectangle ABCD.

Ans: _____ [4]

14. Dawn bought ribbons from Shop A, Shop B, Shop C and Shop D. She bought an equal number of ribbons from Shop C and Shop D.

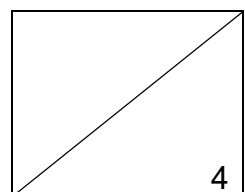$\dfrac{1}{5}$ of the ribbons were bought from Shop B.

$\dfrac{2}{5}$ of the ribbons were bought from Shop A.

(a) What faction of the ribbons was bought from Shop C?

Ans: (a) _____ [2]

(b) Dawn bought 133 ribbons from Shop D. What was the total number of ribbons she bought?
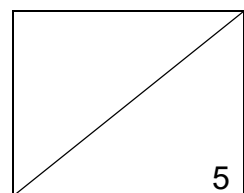
Ans: (b) _____ [2]

4

15. Ronald bought a total of 38 small and big boxes of chicken wings. Each small box of chicken wings cost $6.30 while each big box of chicken wings cost $9.75. He paid $287.85 after a discount of $4 for every $50 spent.

a) What was the total cost of the boxes of chicken wings before the discount?

Ans: (a) _____ [2]

b) How many small boxes of chicken wings did Ronald buy?

Ans: (a) _____ [3]

16. The ratio of the number of boys to the number of girls who visited an amusement park was in the ratio of 10 : 7. The entrance fee for each person was $12 and a total of $4692 was collected from the children.
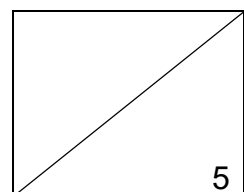
a) How many boys were there?

Ans: (a) _____ [2]

On that same day, the ratio of the number of males (boys and men) to the number of females (girls and women) who visited the amusement park was 8 : 5. There were 54 more men than women.

a) How many women were there?

Ans: (b) _____ [3]

5

17. The first three figures of a pattern are shown below.

Figure 1   Figure 2   Figure 3

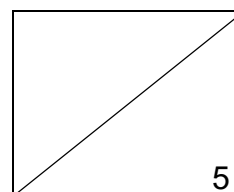The table below shows the number of white and grey circles used for each figure.

Figure Number	1	2	3	4
Number of white circles	4	6	9	11
Number of grey circles	2	3	3	4

(a) Fill in the table for Figure 4.   [2]

(b) What is the total number of white and grey circles in Figure 425?

Ans: (b) _____ [1]

(c) In Figure 425, what percentage of the circles are white?
    Round your answer to 1 decimal place.

Ans: (c) _____ [2]

5

End of Paper 2