

Revision A F3 (Topics 3-6) [43]

1.

Hassan earns £26 000 per year.
The first £5000 is tax free.
He pays 22% of the remaining salary in tax.

How much tax does he pay?

(Total 2 marks)

2.

Solve the equations.

(a) $4z - 5 = 11$

(2)

(b) $7t - 3 = 6 + t$

(3)

(c) $5x - 1 = 3(x + 2)$

(3)

(Total 8 marks)

3.

(a) A regular polygon has 9 sides.
Calculate the size of an interior angle.

(2)

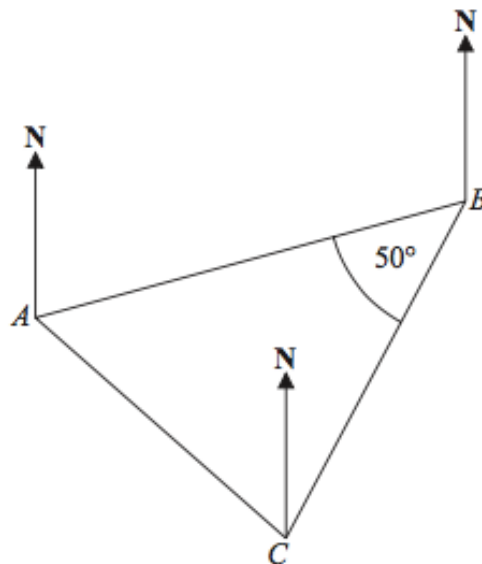
(b) Explain why there is no regular polygon which has an interior angle of 155° .

(3)

(Total 5 marks)

4.

The diagram shows the positions of three points, A , B and C , on a map.



The bearing of B from A is 070°

Angle ABC is 50°

$AB = CB$

Work out the bearing of C from A .

(Total 3 marks)

5.

There are 10 windmills in a line up a hillside.

Each windmill produces 20% more energy than the one below it.

The first windmill, the lowest on the hillside, produces 1.7 megawatts of energy.

(a) How much energy does the second windmill produce?

(1)

(b) How many of the windmills each produce more than 3 megawatts of energy?

(3)

(Total 4 marks)

6.

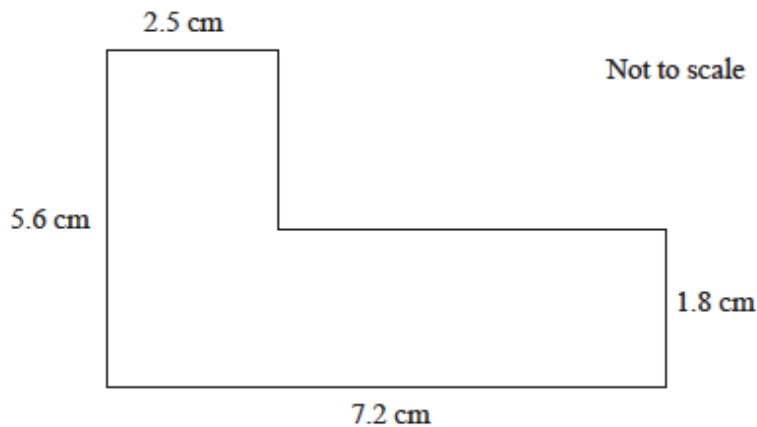
Make x the subject of the formula

$$y = \frac{m + x}{x - 2}$$

(Total 4 marks)

7.

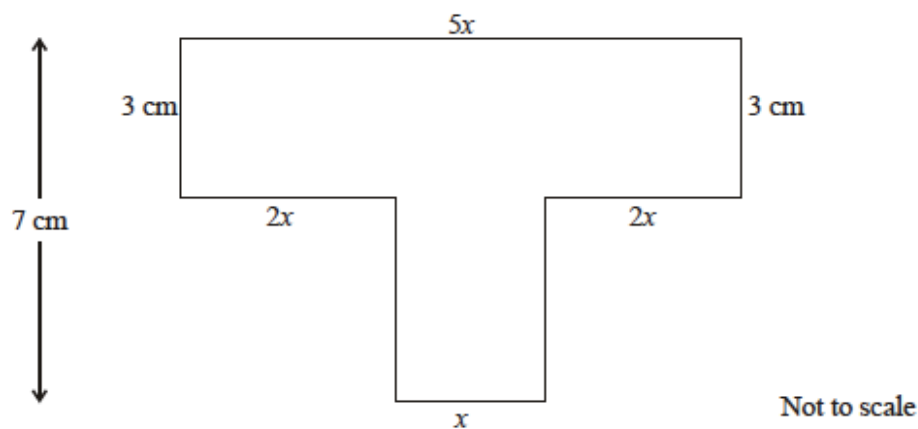
(a) This L-shape is made of rectangles.



Calculate the area of the L-shape.

(3)

(b) This T-shape is also made of rectangles.



The perimeter of the T-shape is 29 cm.

Work out the value of x .

(4)

(Total 7 marks)

8.

- (a) In 2002 the town of Axon had 35 600 houses.
The ratio of detached houses to other types of houses was 1 : 4
How many detached houses were there?

(2)

- (b) In 2003 the town of Axon had 36 200 houses.
What was the percentage increase in the number of houses from 2002 to 2003?

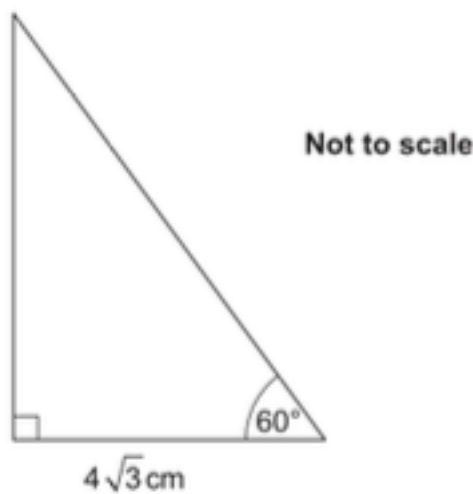
(3)

(Total 5 marks)

9. **Non-calculator**

- (a) Write down the exact value of $\tan 60^\circ$.

- (b) Find the exact area of this triangle.



(Total 5 marks)

10.

Becky has some marbles.
Chris has two times as many marbles as Becky.
Dan has seven more marbles than Chris.

They have a total of 57 marbles.

Dan says,

“If I give some marbles to Becky, each of us will have the same number of marbles.”

Is Dan correct?

You must show how you get your answer.

(Total 3 marks)