17 Here are the first five terms of a number sequence S.

$$10 \quad 16 \quad 22 \quad 28 \quad 34$$

(a) Find an expression, in terms of n, for the nth term of this sequence.

(2)

The nth term of a sequence T is given by $n^2 - 3$

There are numbers that are terms in both the sequence S and the sequence T.

(b) Find one of these numbers.

(2)

(Total for Question 17 is 4 marks)

18 On Saturday, Jacob walked 10 800 steps.
On Sunday, he walked 7% more steps than on Saturday.

Work out how many steps Jacob walked on Sunday.
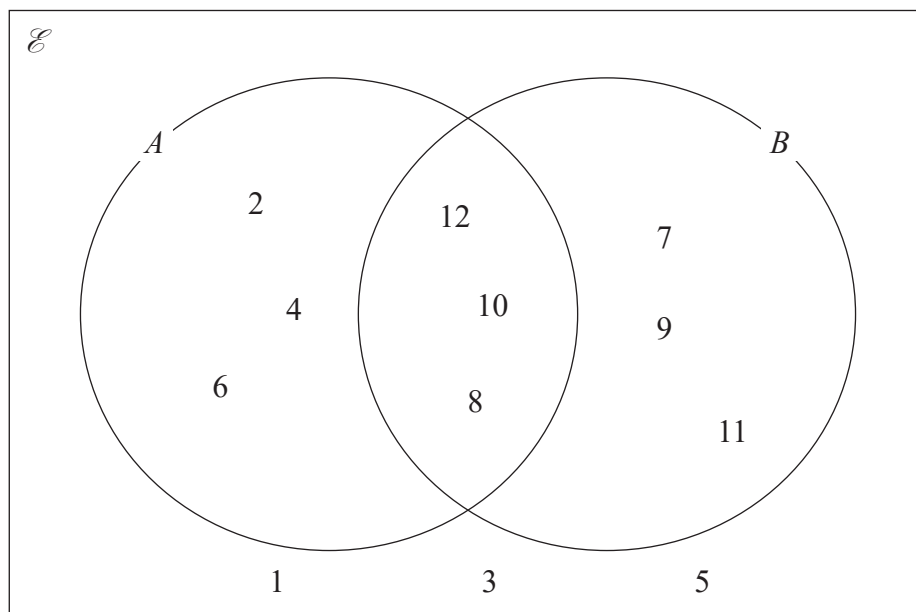
(Total for Question 18 is 3 marks)

19 Here is a Venn diagram with $\mathscr{E}$ = {whole numbers from 1 to 12}

(a) List the numbers that are in set A

(1)

(b) List the numbers that are in set $A \cap B$

(1)

(c) List the numbers that are in set $(A \cup B)'$

(1)

One of the numbers in the Venn diagram is chosen at random.

(d) Find the probability that this number is in set $A \cup B$

(2)

(Total for Question 19 is 5 marks)

20 The length of a line is 12.3 cm, correct to 1 decimal place.

(a) Write down the upper bound of the length of the line.

.... cm

(1)

(b) Write down the lower bound of the length of the line.

.... cm

(1)

(Total for Question 20 is 2 marks)

21 Omar invests 6000 dirham for 4 years in a savings account.
He will get 1.5% per year compound interest.

Work out the total amount of interest Omar will have received by the end of 4 years.
Give your answer correct to the nearest dirham.

.... dirham

(Total for Question 21 is 3 marks)

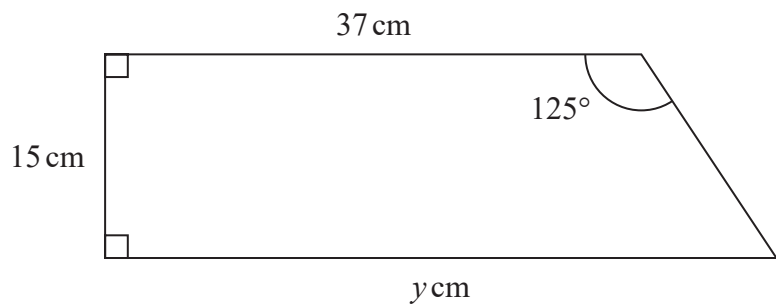**22** The diagram shows a trapezium.

37 cm

125°
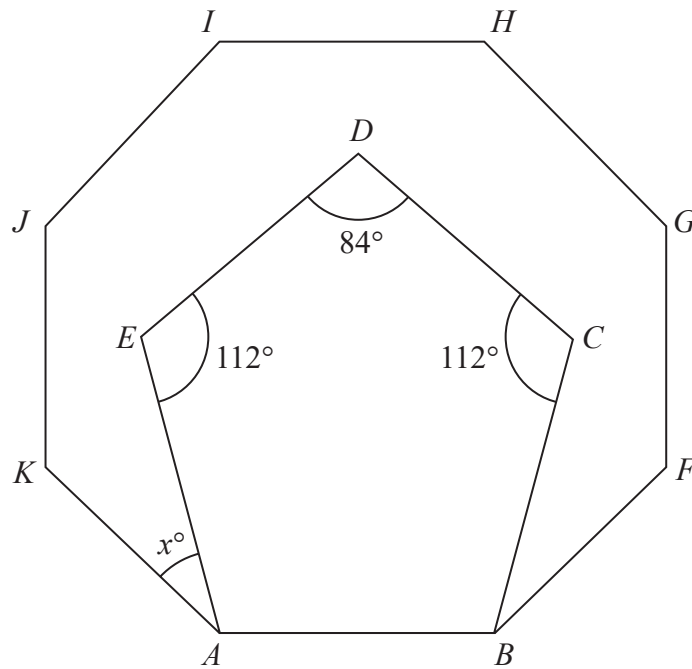
Diagram **NOT** accurately drawn

15 cm

y cm

Work out the value of *y*.
Give your answer correct to 1 decimal place.

y =

(Total for Question 22 is 4 marks)

Diagram **NOT** accurately drawn

Pentagon *ABCDE* is drawn inside the regular octagon *ABFGHIJK*.
The pentagon has exactly one line of symmetry.

Work out the value of *x*.

x = ...

(Total for Question 23 is 4 marks)

24 Carlos, Flavia and Tazia shared £861 between themselves.

The amount of money Flavia got is 65% of the amount of money Carlos got.
The amount of money Tazia got is 22% **more** than the amount of money Carlos got.

Work out how much money Carlos got.

£ ....

(Total for Question 24 is 3 marks)

25 (a) Factorise fully $12d^2e + 16d^2e^2$

(b) Simplify fully $\dfrac{15k^4m^3}{5km^2}$

(Total for Question 25 is 4 marks)

TOTAL FOR PAPER IS 100 MARKS