Area of Shapes

SCAN ME

REVISE THIS TOPIC

1

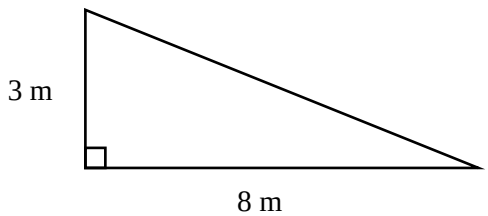
Work out the area of the rectangle giving the units of your answer.

6×10

60 cm^2

(Total for Question 1 is 2 marks)

2



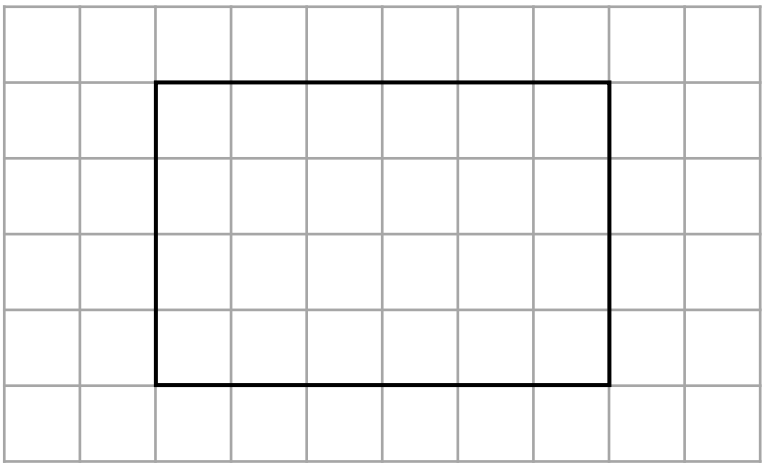
Work out the area of the triangle giving the units of your answer.

$\frac{1}{2} \times 8 \times 3$

12 m^2

(Total for Question 2 is 2 marks)

3 A rectangle is drawn on a centimetre grid.

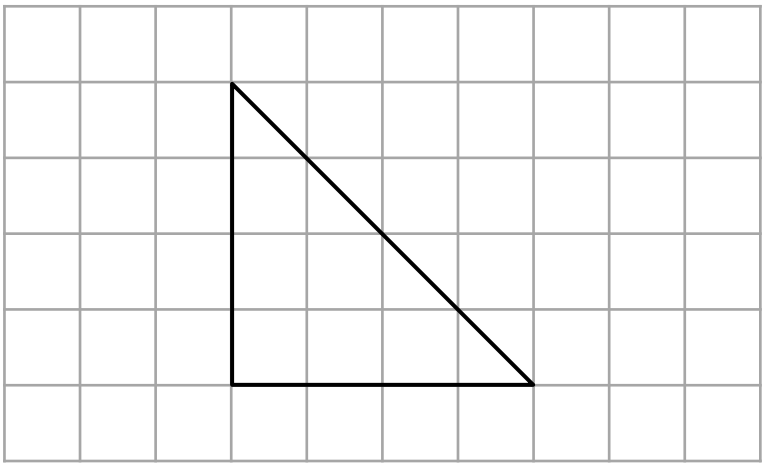


(a) Work out the area of the rectangle.

24 ..... cm^2

(1)

A triangle is drawn on a centimetre grid.



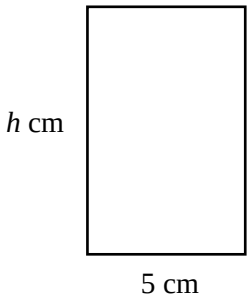
(b) Work out the area of the triangle.

8 ..... cm^2

(1)

(Total for Question 3 is 2 marks)

4 The rectangle has a base of 5 cm and a height of *h* cm.



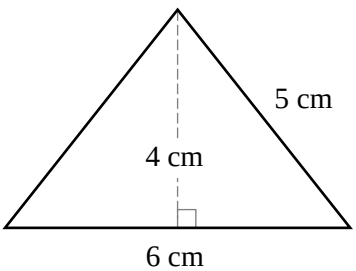
The area of the rectangle is 40 cm^2
Work out the value of *h*.

40 ÷ 5

8 ..... cm

(Total for Question 4 is 1 mark)

5



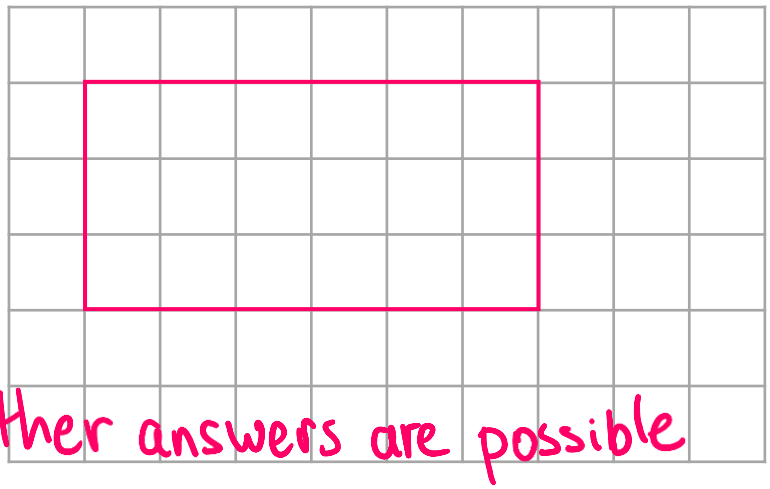
Work out the area of the triangle.

½ x 6 x 4

12 ..... cm^2

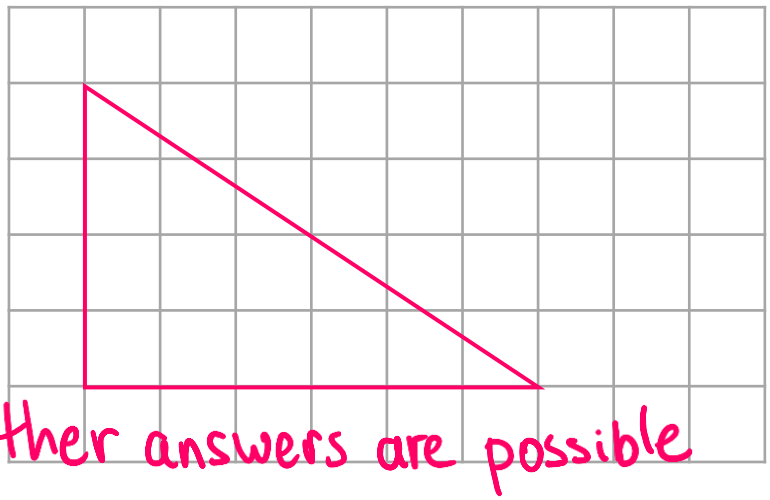
(Total for Question 5 is 2 marks)

6 (a) On the centimetre grid below, draw a rectangle with an area of 18 cm^2



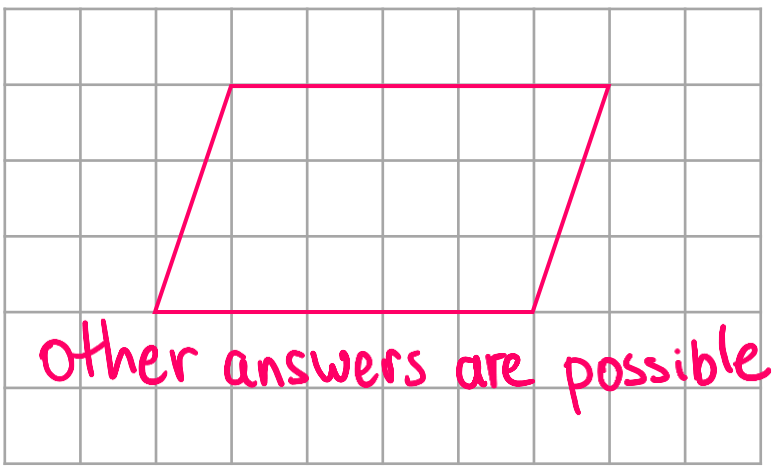
(1)

(b) On the centimetre grid below, draw a triangle with an area of 12 cm^2



(1)

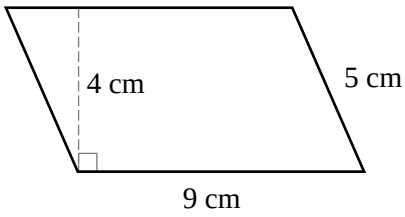
(c) On the centimetre grid below, draw a parallelogram with an area of 15 cm^2



(1)

(Total for Question 6 is 3 marks)

7



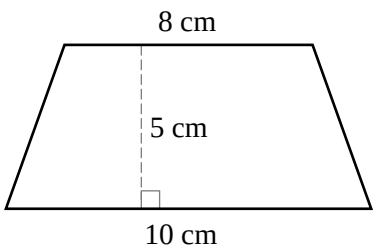
Work out the area of the parallelogram.

9×4

36 ..... cm^2

(Total for Question 7 is 2 marks)

8



Work out the area of the trapezium.

$\frac{1}{2}(8+10) \times 5$

$= \frac{1}{2}(18) \times 5$

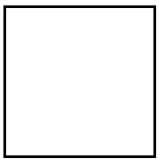
$= 9 \times 5$

45 ..... cm^2

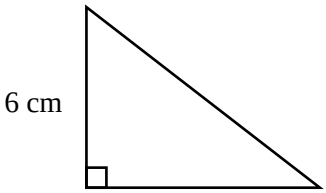
(Total for Question 8 is 2 marks)

9 Here is a square, triangle and parallelogram.

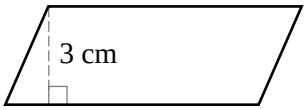
Square



Triangle



Parallelogram



Put the shapes in order of area, starting with the smallest.

Square $5 \times 5 = 25\text{cm}^2$

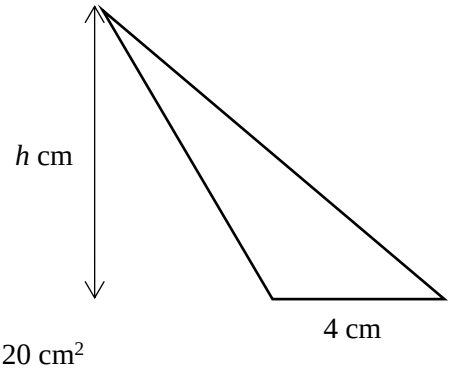
Triangle $\frac{1}{2} \times 8 \times 6 = 24\text{cm}^2$

Parallelogram $10 \times 3 = 30\text{cm}^2$

Triangle Square Parallelogram

(Total for Question 9 is 3 marks)

10 A triangle has a base of 4 cm and a perpendicular height of h cm.



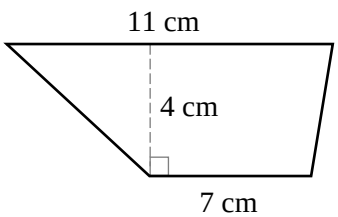
The area of the triangle is 20 cm^2
Work out the value of h.

$\frac{1}{2} \times 4 \times h = 20$
$2h = 20$
$h = 10$

$h =$ 10 cm

(Total for Question 10 is 2 marks)

11



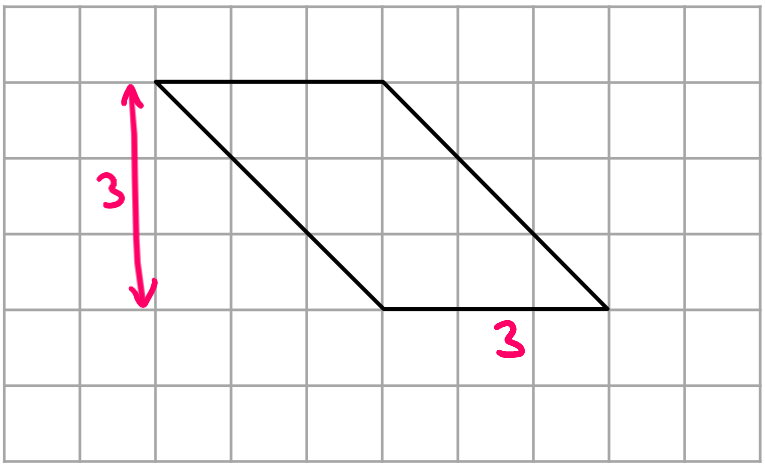
Work out the area of the trapezium.

$\frac{1}{2}(7 + 11) \times 4$
$= \frac{1}{2}(18) \times 4$
$= 9 \times 4$

36 cm^2

(Total for Question 11 is 2 marks)

12 A parallelogram is drawn on a centimetre grid.

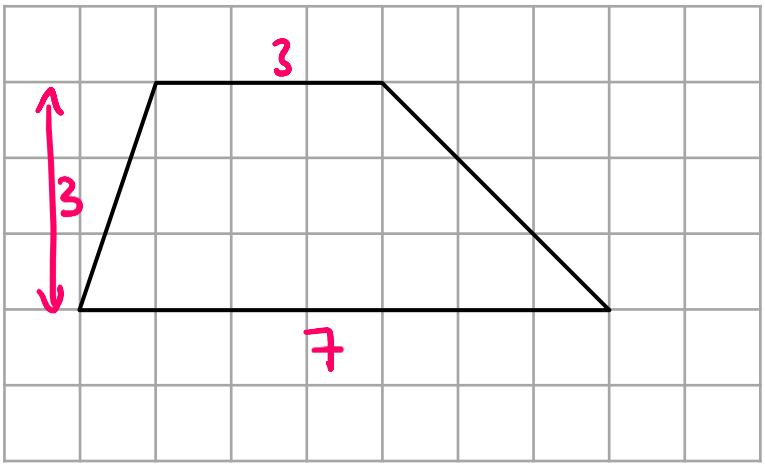


(a) Work out the area of the parallelogram.

9 ..... cm^2

(1)

A trapezium is drawn on a centimetre grid.



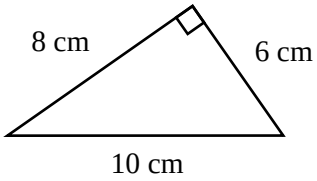
(b) Work out the area of the trapezium.

15 ..... cm^2

(2)

(Total for Question 12 is 3 marks)

13



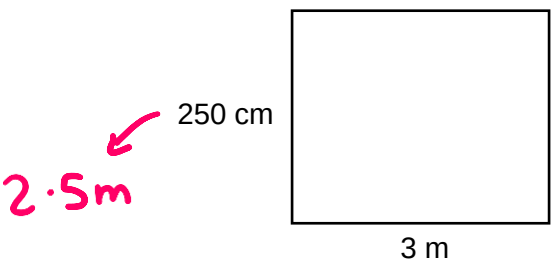
Work out the area of the triangle.

$\frac{1}{2} \times 8 \times 6$

24 ..... cm^2

(Total for Question 13 is 2 marks)

14



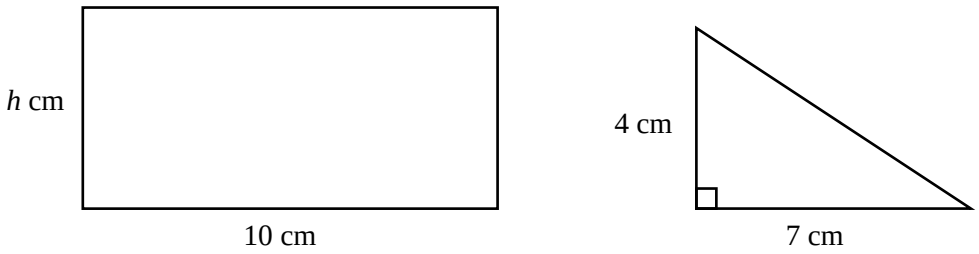
Work out the area of the rectangle.
Give your answer in square metres.

2.5×3

7·5 ..... cm^2

(Total for Question 14 is 2 marks)

15 Here is a rectangle and a triangle.



The area of the rectangle is 3 times the area of the triangle.
Work out h, the height of the rectangle.

Area of triangle = $\frac{1}{2} \times 7 \times 4$
= $14 cm^2$

$3 \times 14 = 42 cm^2$

$42 \div 10 = 4.2$

$h =$ 4.2 cm

(Total for Question 15 is 4 marks)

16 A square has side length 3.2 cm
Work out the area of the square, giving your answer in square centimetres.

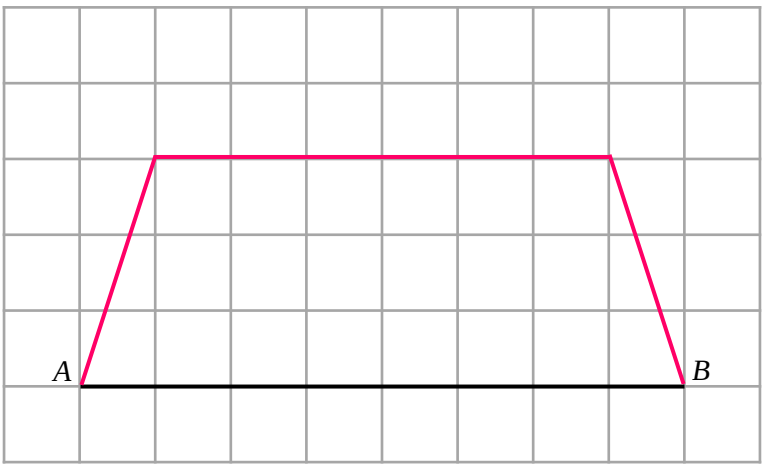
3.2×3.2

$$\begin{array}{r} 32 \\ 32 \\ \hline 64 \\ 960 \\ \hline 10,24 \end{array}$$

10.24 cm^2

(Total for Question 16 is 3 marks)

17 The line *AB* is one side of a trapezium *ABCD* which has an area of 21cm^2
The line *AB* has been drawn on the centimetre grid below.

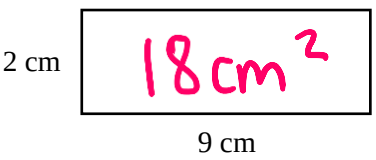


Complete a possible trapezium *ABCD*.

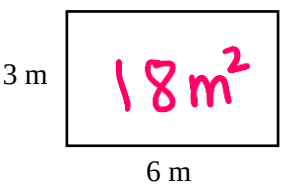
(Total for Question 17 is 2 marks)

18 Here are two rectangles.

Rectangle A



Rectangle B



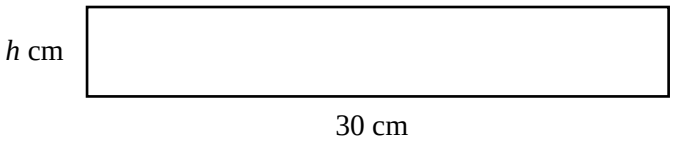
Aaron says "Rectangle A and rectangle B have the same area"

Is Aaron correct?
Give a reason for your answer.

No - 18m² is bigger than 18cm²

(Total for Question 18 is 1 mark)

19 A rectangle has a base of 30 cm and a height of h cm.



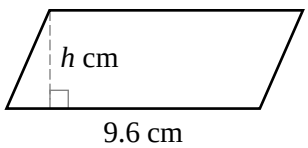
The area of the rectangle is 15 cm^2
Work out the value of h.

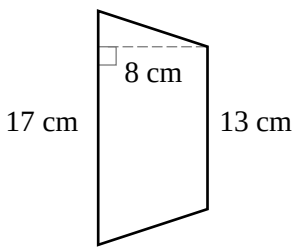
$15 \div 30 = 0.5$

0.5 ..... cm

(Total for Question 19 is 1 marks)

20 Here is a parallelogram and a trapezium





The area of the parallelogram one fifth of the area of the trapezium
Work out h, the perpendicular height of the parallelogram.

$\frac{1}{2}(13+17) \times 8$
$= \frac{1}{2}(30) \times 8$
$= 15 \times 8$
$= 120\ cm^2$

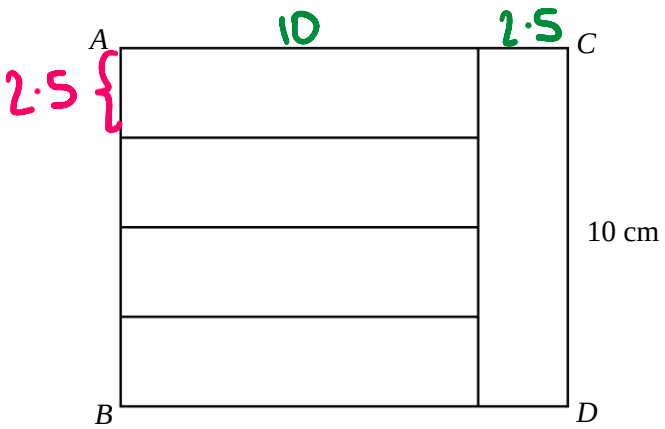
$120 \div 5 = 24$

$24 \div 9.6 = 2.5$

2.5 ..... cm

(Total for Question 20 is 4 marks)

21 Five congruent rectangles are joined to make rectangle *ABCD*.



Work out the area of rectangle *ABCD*.

$10 \div 4 = 2.5$

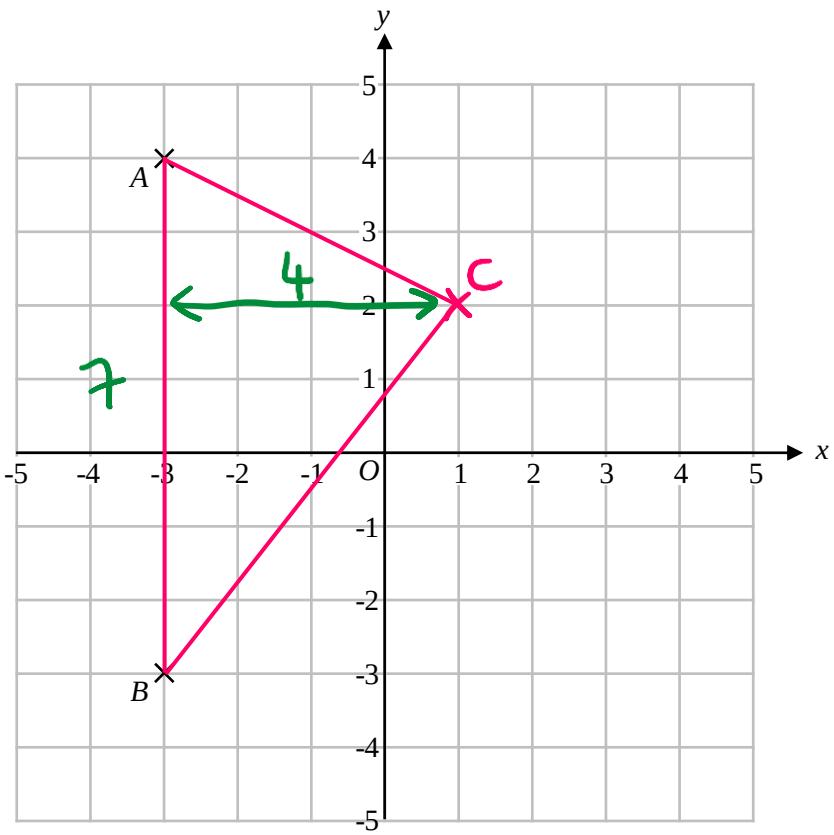
$10 + 2.5 = 12.5$

$12.5 \times 10 = 125$

125 ..... cm^2

(Total for Question 21 is 4 marks)

22 Points A and B are shown on the centimetre grid below.



$C = (1, 2)$

Work out the area of triangle ABC.

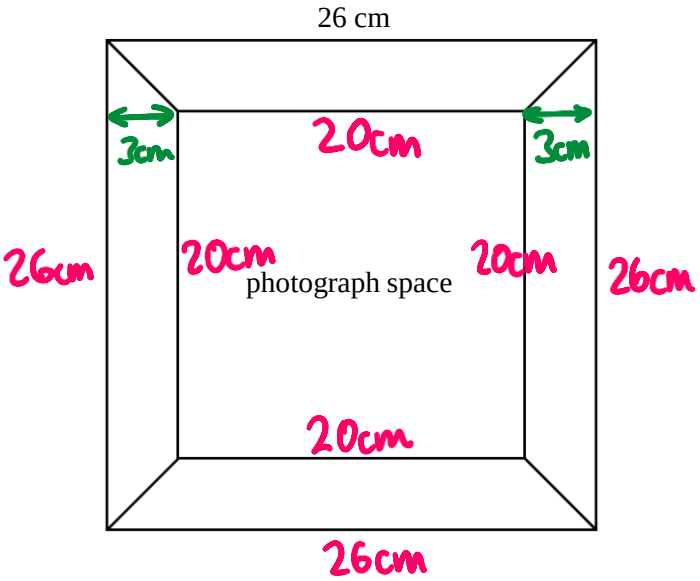
$\frac{1}{2} \times 7 \times 4$

14

..... cm^2

(Total for Question 22 is 3 marks)

23 A picture frame is made from four congruent trapeziums.



The width of the picture frame is 26 cm.
A square photograph will be placed in the photograph space.
The area of the photograph space is 400 cm^2

Work out the area of one of the trapeziums that forms the picture frame.

$\sqrt{400} = 20$ cm

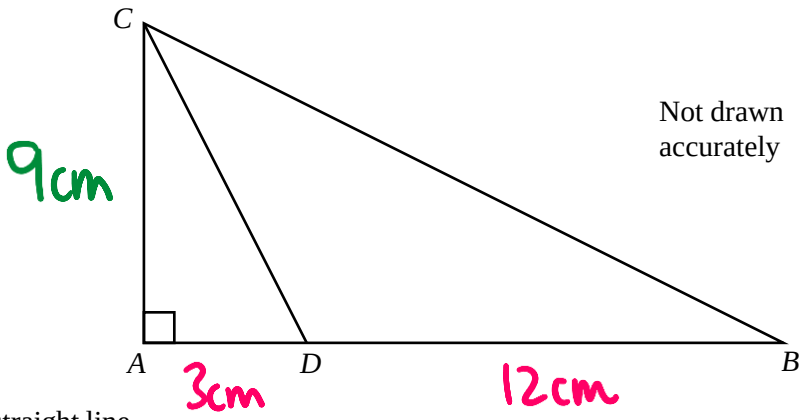
$26 - 20 = 6$
$6 \div 2 = 3$

$\frac{1}{2}(20+26) \times 3$
$= \frac{1}{2}(46) \times 3$
$= 23 \times 3$

69 ..... cm^2

(Total for Question 23 is 4 marks)

24 *ABC* is a triangle.



ABD is a straight line.

AB = 15 cm
AD : *DB* = 1 : 4
AD : *AC* = 1 : 3

Work out the area of triangle *BCD*.

1 + 4 = 5
15 ÷ 5 = 3
1 x 3 = 3cm
4 x 3 = 12cm

AD : AC
x3 (1 : 3 / 3 : 9) x3
AC = 9cm

½ x 12 x 9 = 54 cm²

54 ..... cm²

(Total for Question 24 is 4 marks)