

Name: _____

Exam Style Questions

Area of a Rectangle



Equipment needed: Calculator, pencil, ruler & pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

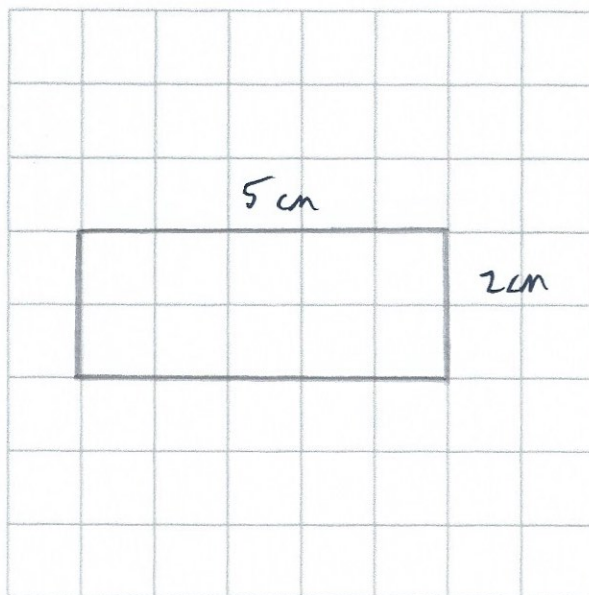
Video 45



Answers and Video Solutions



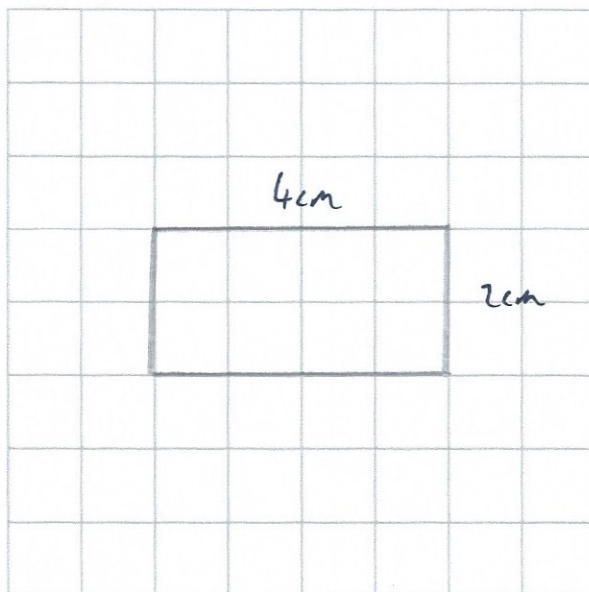
1. On the grid below each square represents 1cm by 1cm.



Draw a square with an area of 10cm^2 .

(2)

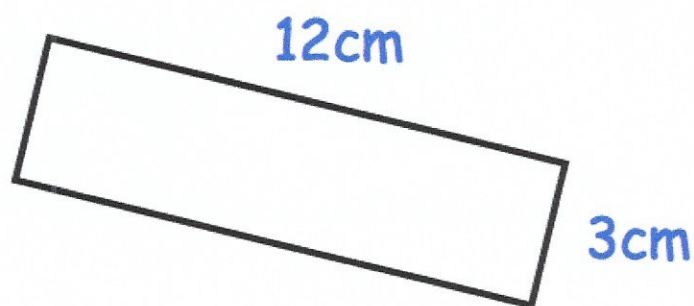
2. On the grid below each square represents 1cm by 1cm.



Draw a rectangle with an area of 8cm^2 .

(2)

3. The diagram shows a rectangle.



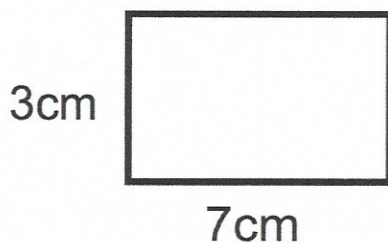
Work out the area.
Include units.

$$12 \times 3 = 36$$

$$\underline{\quad 36 \text{ cm}^2 \quad}$$

(3)

4. Shown below is a rectangle.



Work out the area.

$$3 \times 7 = 21$$

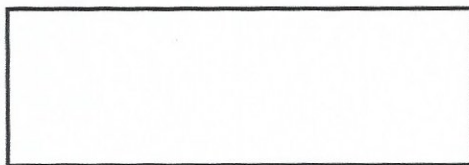
$$\underline{\quad 21 \quad} \text{cm}^2$$

(2)

5. The diagram shows a rectangle.



12cm



The length of the rectangle is 12cm

The area of the rectangle is 48cm²

Find the width of the rectangle.

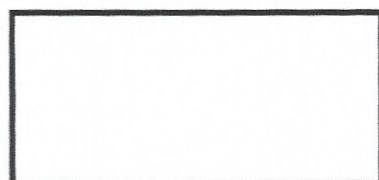
$$48 \div 12 = 4$$

.....4.....cm
(2)

- 6.



4.5cm



2.8cm

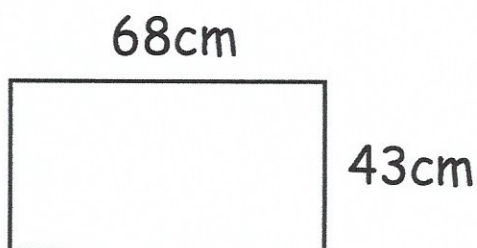
The rectangle has length 4.5cm and width 2.8cm.

Work out the area.

$$4.5 \times 2.8 = 12.6$$

.....12.6.....cm²
(2)

7. Shown below is a rectangle.



Work out the area of the rectangle.

$$\begin{array}{r} 68 \\ \times 43 \\ \hline 204 \\ + 2720 \\ \hline 2924 \end{array}$$

2924cm²
(2)

8. The width of a rectangle is 28cm
The area of the rectangle is 1540cm²

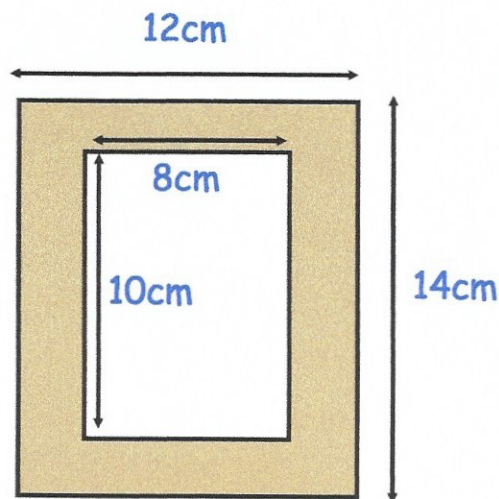


Work out the length of the rectangle.

$$1540 \div 28 = 55$$

55cm
(2)

9. Shown below is a wooden picture frame.

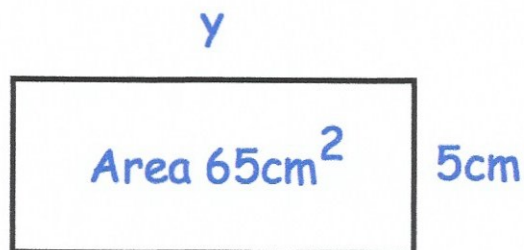


Work out the shaded area.

$$\begin{aligned} 12 \times 14 &= 168 \\ 10 \times 8 &= 80 \\ 168 - 80 &= 88 \end{aligned}$$

.....⁸⁸cm²
(3)

10. The rectangle below has an area of 65cm².



Work out the size of y.

$$65 \div 5 = 13$$

.....¹³cm
(2)

11. The perimeter of a square is 28cm.



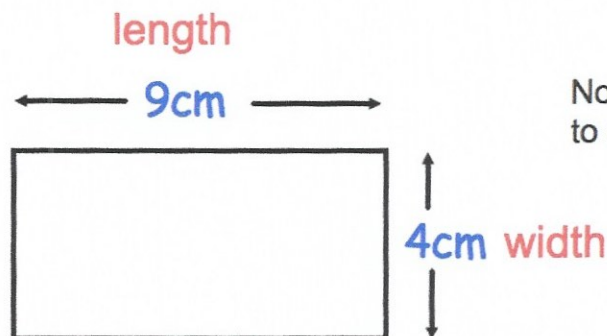
Find the area of the square.

$$28 \div 4 = 7$$

$$7 \times 7 = 49$$

.....49.....cm²
(2)

12. The rectangle below has an area of 36cm²



The rectangle has length 9cm and width 4cm.

Write down the length and width of **two** other rectangles with area 36cm².

Rectangle 1: length12.....cm width3.....cm

Rectangle 2: length36.....cm width1.....cm

18

72

2

0.5

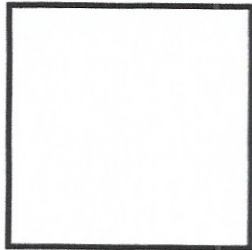
etc.

(2)

13. Shown below is a square and a rectangle.



Square



8cm

Rectangle



16cm

The square and rectangle have the same area.

Find the y.

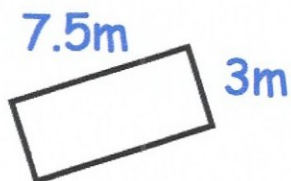
$$8 \times 8 = 64$$

$$64 \div 16 = 4$$

4

.....cm
(3)

14. Work out the area of the rectangle below.



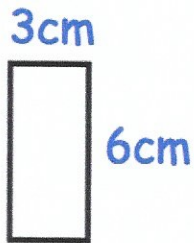
Include units.

$$7.5 \times 3$$

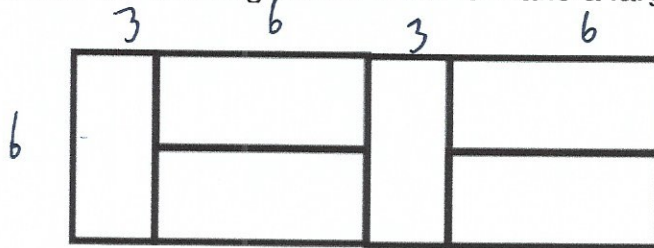
22.5m²

.....
(3)

15. A rectangle is 3cm by 6cm.



Six of the rectangles are used to make a larger rectangle.



$$3 + 6 + 3 + 6 = 18 \text{ cm}$$

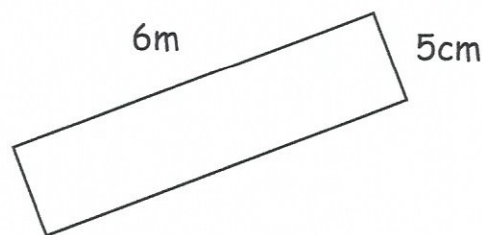
Work out the area of the larger rectangle.

$$18 \times 6 = 108$$

$$\dots\dots\dots 108 \text{ cm}^2$$

(2)

16. The diagram shows a rectangle.



Not to scale

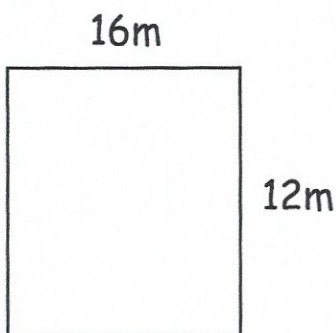
Work out the area.
Give your answer in centimetres squared.

$$600 \times 5 = 3000$$

$$\dots\dots\dots 3000 \text{ cm}^2$$

(3)

17. Jessica wants to lay artificial grass in her rectangular garden.



Each square metre of artificial grass costs £23

How much should Jessica pay for the artificial grass?

$$\begin{array}{r} 16 \\ \times 12 \\ \hline 192 \end{array}$$

$$192 \times 23 = 4416$$

£4416
(3)

18. On the grid below each square represents 1cm by 1cm.



$$\begin{array}{c} \times 4 \\ \hline 3cm \rightarrow 12cm \end{array}$$

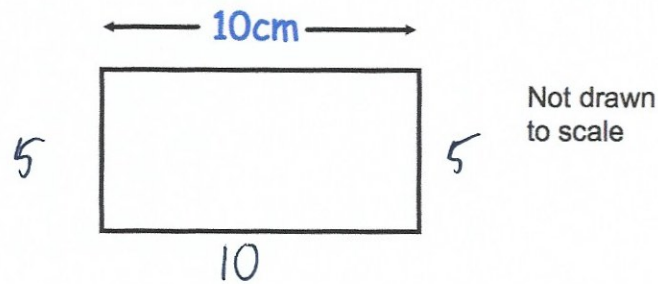
A rectangle has an area of 36cm^2

The length of the rectangle is ~~6~~ times greater than the width of the rectangle.

Draw the rectangle on the grid.

(2)

19. Here is a rectangle with perimeter 30cm.



The length of the rectangle is 10cm.

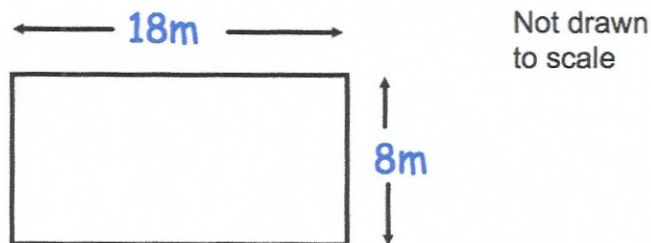
Work out the area of the rectangle.

$$\begin{aligned} 10 + 10 &= 20 \\ 30 - 20 &= 10 \\ 10 \div 2 &= 5 \end{aligned}$$

$$5 \times 10 = 50$$

50
.....cm²
(3)

- 20.



Mrs Jenkins is a chicken farmer.
Her chicken pen is 18m long and 8m wide.
Each chicken requires at least 3m².

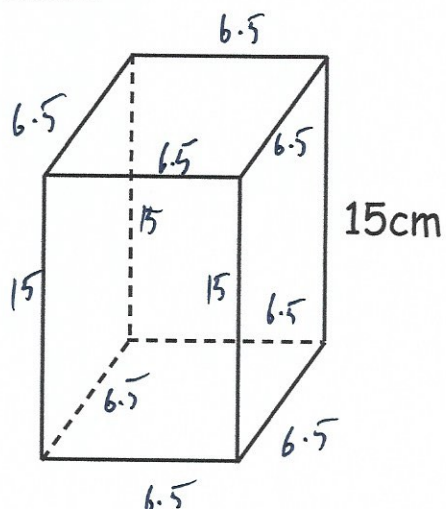
What is the maximum number of chickens Mrs Jenkins can keep?

$$18 \times 8 = 144$$

$$144 \div 3 = 48$$

48
.....
(4)

21. Shown below is a cuboid.



The base of the cuboid is a square and the height of the cuboid is 15cm.

The total length of the 12 edges is 112cm.

Find the area of the base of the cuboid.

$$15 + 15 + 15 + 15 = 60$$

$$112 - 60 = 52$$

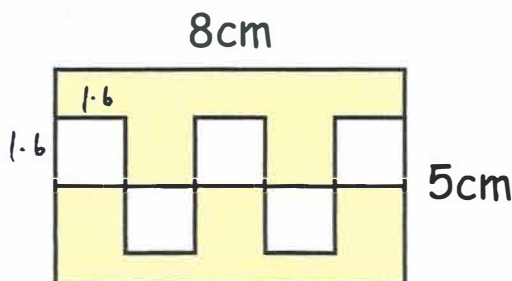
$$52 \div 8 = 6.5$$

$$6.5 \times 6.5 =$$

$$\begin{array}{r} 42.25 \\ \hline \end{array} \text{cm}^2$$

(4)

22. Rory made a rectangular logo, 8cm long and 5cm wide.



There are 5 identical white squares and the rest of the logo is shaded.

Find the area of the logo that is shaded.

$$8 \div 5 = 1.6$$

$$8 \times 5 = 40$$

$$40 - 12.8 = 27.2$$

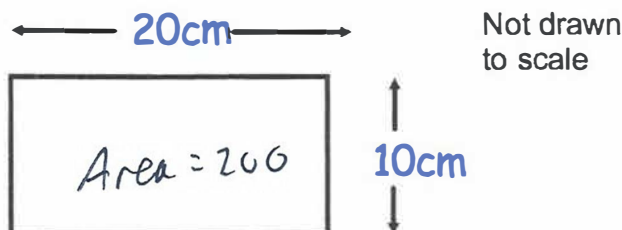
$$1.6 \times 1.6 = 2.56$$

$$2.56 \times 5 = 12.8$$

$$\dots\dots\dots 27.2 \text{ cm}^2$$

(4)

23. Shown below is a rectangle with length 20cm and width 10cm.



$$\frac{52}{200} = \frac{26}{100}$$

The length of the rectangle is increased by 20%.

The width of the rectangle is increased by 5%.

Find the percentage increase in the area of the rectangle.


length $20 \div 10 = 2$ $2 \times 2 = 4$ 24 cm

width $10 \div 10 = 1$ $1 \div 2 = 0.5$ 10.5 cm

$$24 \times 10.5 = 252 \text{ cm}^2$$

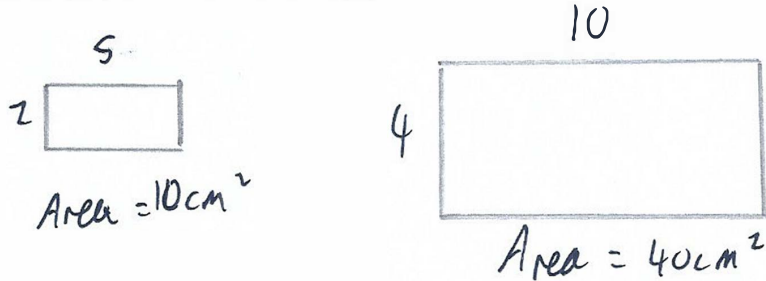
$$\dots\dots\dots 26 \%$$

(3)

24. Rebecca draws a rectangle.
 Holly enlarges the rectangle by scale factor 2.

Rebecca states "the area will be twice as larger as the original rectangle."

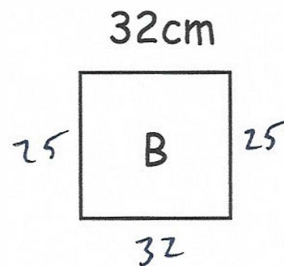
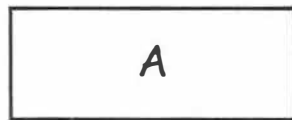
Show Rebecca is incorrect.



The area is actually 4 times bigger.

(4)

25. Shown below are rectangles A and B.



$$\begin{aligned} 32 + 32 &= 64 \\ 114 - 64 &= 50 \\ 50 \div 2 &= 25 \text{ cm} \end{aligned}$$

Both rectangles have the same area.
 The perimeter of rectangle B is 114cm.

The length of rectangle A is 8 times longer than its width.

Find the length of rectangle A.

$$32 \times 25 = 800 \text{ cm}^2$$

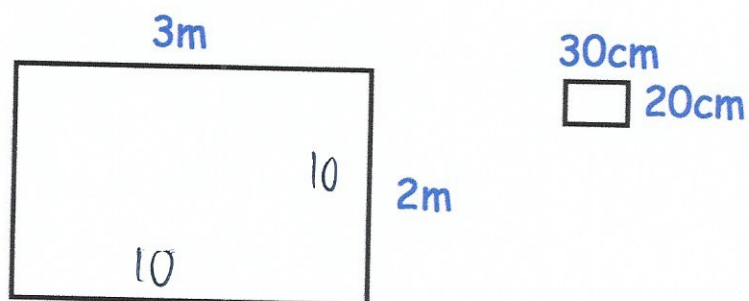
$$\underline{\underline{80 \times 10 = 800}}$$

.....80.....cm
 (5)

26. Mr Jones is tiling his kitchen floor.



The kitchen floor measures 3m by 2m.
Each tile is 30cm by 20cm.



$$300 \div 30 = 10$$

How many tiles does he need?

$$200 \div 20 = 10$$

$$10 \times 10 = 100$$

100

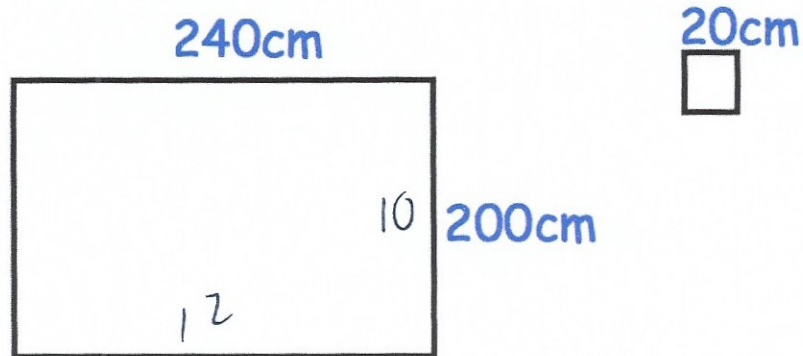
(3)

27. Jessica is tiling her bathroom wall.



The wall is 240cm by 200cm.

The tiles are squares with side length 20cm.



Each box contains 15 tiles and costs £8.75.

How much will it cost Jessica for the tiles?

$$240 \div 20 = 12$$

$$200 \div 20 = 10$$

$$12 \times 10 = 120$$

$$120 \div 15 = 8$$

$$8 \times £8.75$$

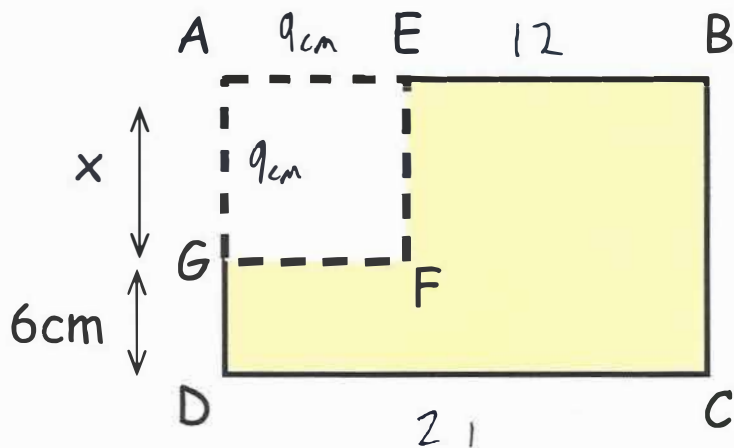
£ 270
(5)

28. ABCD is a rectangle.



The length of the rectangle, AB, is 40% longer than the width of the rectangle, AD.

A square AEGF is then removed from rectangle ABCD to leave a hexagon.



Given that $x : 6 = 3 : 2$

Find the area of the hexagon.

$$\begin{aligned} & \times 3 \quad \left(\begin{array}{l} 3 : 2 \\ 2 \times 3 \end{array} \right) \\ & x : 6 \end{aligned}$$

$$x = 9$$

$$\text{width} = 9 + 6 = 15 \text{ cm}$$

length is 40% longer

$$10\% \text{ of } 15 \rightarrow 1.5$$

$$40\% \rightarrow 6$$

$$15 + 6 = 21$$

$$15 \times 21 = 315$$

$$9 \times 9 = 81$$

$$315 - 81 = 234$$

$$\begin{array}{r} 234 \\ \hline \text{cm}^2 \\ (5) \end{array}$$