

Name: _____

Exam Style Questions



Area of a Trapezium

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

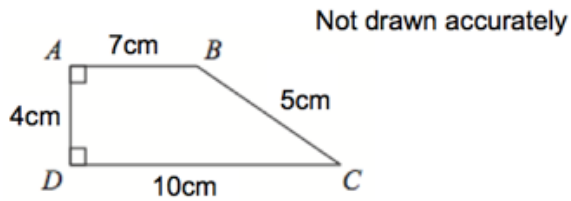
Revision for this topic

www.corbettmaths.com/contents

Video 48



1. Below is a trapezium, ABCD.

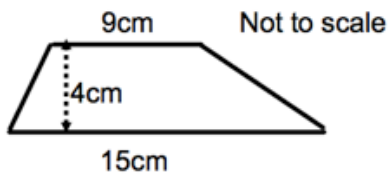


Work out the area of the trapezium.

$$\begin{aligned} & \frac{1}{2}(7+10) \times 4 \\ & = \frac{1}{2}(17) \times 4 \\ & = 8.5 \times 4 = \end{aligned}$$

34cm²
(2)

- 2.

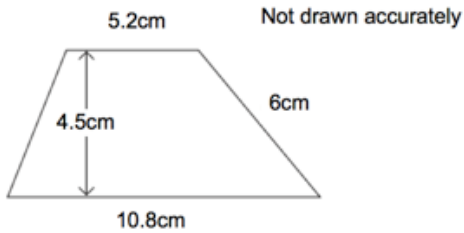


Calculate the area of the trapezium.

$$\begin{aligned} & \frac{1}{2}(9+15) \times 4 \\ & = \frac{1}{2}(24) \times 4 \\ & = 48 \end{aligned}$$

48cm²
(2)

3.

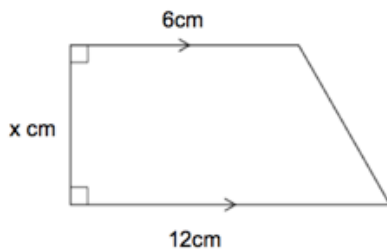


Calculate the area of the trapezium.

$$\begin{aligned} & \frac{1}{2}(5.2+10.8) \times 4.5 \\ &= \frac{1}{2}(16) \times 4.5 \\ &= 36 \end{aligned}$$

36cm²
(2)

4.



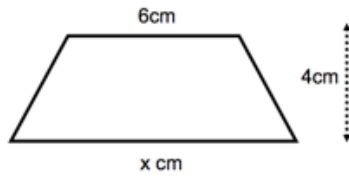
The area of the trapezium is 63cm².

Work out the value of x.

$$\begin{aligned} & \frac{1}{2}(6+12) \times x = 63 \\ & \frac{1}{2}(18) \times x = 63 \\ & 9x = 63 \\ & x = 7 \end{aligned}$$

7cm
(2)

5.



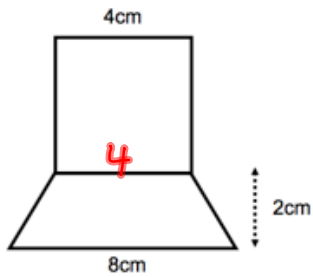
The area of the trapezium is 34cm^2 .

Work out the value of x .

$$\begin{aligned}\frac{1}{2}(6+x) \times 4 &= 34 \\ 2(6+x) &= 34 \\ 6+x &= 17\end{aligned}$$

.....**11**.....cm
(2)

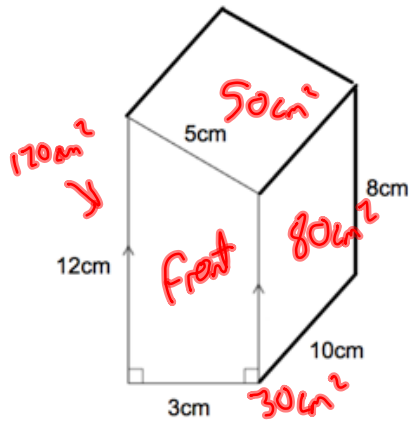
6. A club logo is made from a square and a trapezium.



$$\begin{aligned}\text{Square: } 4 \times 4 &= 16\text{cm}^2 \\ \text{Trapezium: } \frac{1}{2}(4+8) \times 2 &= 12\text{cm}^2\end{aligned}$$

.....**28**..... cm^2
(4)

7. Shown is a cardboard box.



Calculate the surface area of the box.

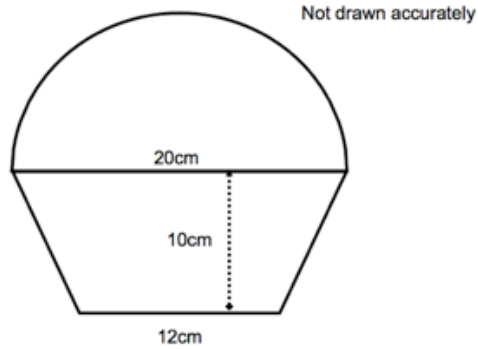
$$\begin{aligned} \text{front: } & \frac{1}{2}(8+12) \times 3 \\ & = \frac{1}{2}(20) \times 3 \\ & = 30 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{back: } & 30 \text{ cm}^2 \\ \text{right: } & 80 \text{ cm}^2 \\ \text{top: } & 50 \text{ cm}^2 \\ \text{bottom: } & 30 \text{ cm}^2 \\ \text{left: } & 120 \text{ cm}^2 \end{aligned}$$

$$120 + 30 + 50 + 80 + 30 + 30 = 340 \text{ cm}^2$$

340
.....cm²
(5)

8. A design is shown below.



Find the area of the design.

$$\begin{aligned} \text{Semi-circle} &: \frac{1}{2} (\pi r^2) \\ &: \frac{1}{2} (\pi \times 10^2) = 50\pi \\ &= 157.08 \text{ cm}^2 \end{aligned}$$

$$\text{Trapezium: } \frac{1}{2} (20+12) \times 10 = 160 \text{ cm}^2$$

$$157.08 + 160$$

$$\underline{317.08} \text{ cm}^2$$

(5)