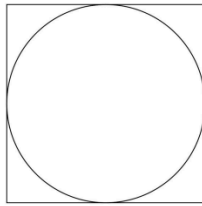


Q1. (2017)

12 Here is a circle touching a square.



Not drawn accurately

The area of the square is 64 cm^2

Work out the area of the circle.

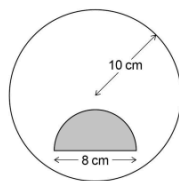
Give your answer in terms of π .

[3 marks]

Answer _____ cm^2

Q2. (2019)

9 A shaded semicircle is inside a circle as shown.



Not drawn accurately

The **radius** of the circle is 10 cm

The **diameter** of the semicircle is 8 cm

How many times bigger is the unshaded area than the shaded area?

[4 marks]

Q3. (2020)

8 The shorter side of a parallelogram has length 6.5 cm



Not drawn accurately

The length of the shorter side is $\frac{1}{9}$ of the perimeter.

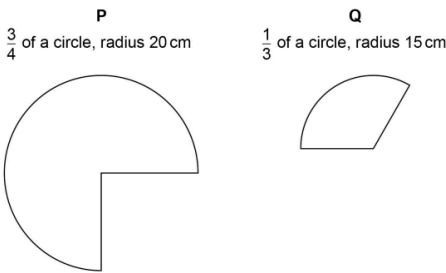
Work out the length of the longer side.

[3 marks]

Answer _____ cm

Q4. (2022)

11 Here are two shapes, P and Q.



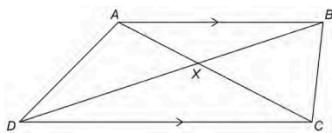
Not drawn accurately

How many times bigger is the area of P than the area of Q?
You **must** show your working.

[4 marks]

Q5. (2023)

15 *ABCD* is a trapezium.
All four sides are different lengths.
AB is parallel to *CD*.
The diagonals intersect at *X*.



Not drawn accurately

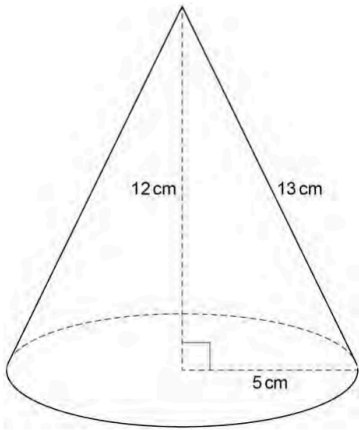
For each statement, tick the correct box.

[4 marks]

	True	May be true	Not true
Triangles <i>AXB</i> and <i>CXD</i> are similar	☐	☐	☐
Triangles <i>AXD</i> and <i>BXC</i> are congruent	☐	☐	☐
Angle <i>ADB</i> = angle <i>BDC</i>	☐	☐	☐
Area of triangle <i>ABC</i> = area of triangle <i>ABD</i>	☐	☐	☐

Q6. (2024)

7 Here is a cone.



(A)

7 (a)

Curved surface area of a cone = πrl
where r is the radius and l is the slant height

Beth tries to work out the curved surface area in terms of π

Curved surface area of the cone = $\pi \times 5 \times 12$
= $60\pi \text{ cm}^2$

What mistake has she made?

[1 mark]

(B)

7 (b) Adam uses $\pi = 3$ to estimate the area of the **base** of the cone.

Work out his estimate.

[2 marks]

Answer _____ cm^2

(C)

7 (c) Beth uses $\pi = 3.14$ to estimate the area of the **base** of the cone.

Is Beth's estimate more than or less than Adam's estimate?

Tick a box.

More than

☐

Less than

☐

Give a reason for your answer.

[1 mark]