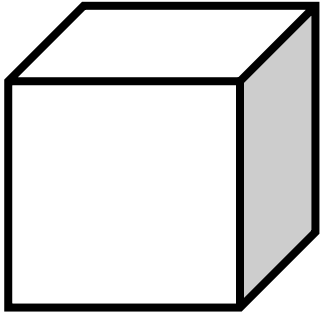


Surface area

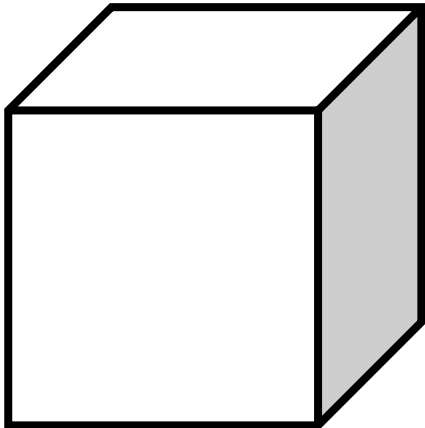
[CONTENTS](#)

Worked example

Calculate the surface area of the cube:



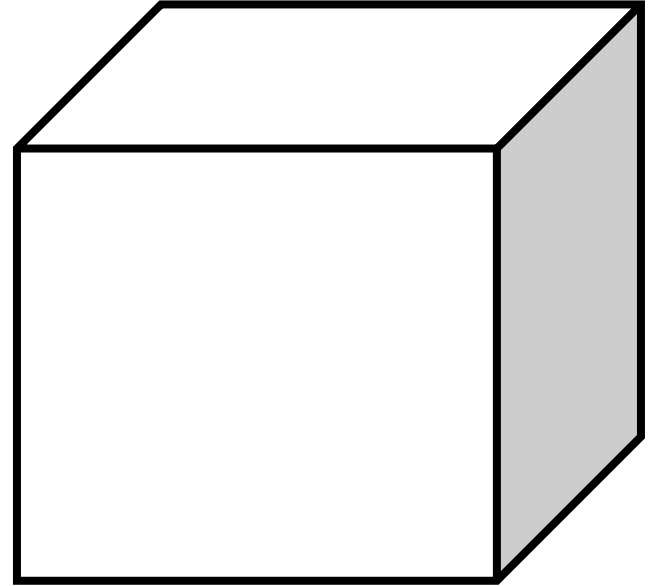
3 cm



4 cm

Your turn

Calculate the surface area of the cube:

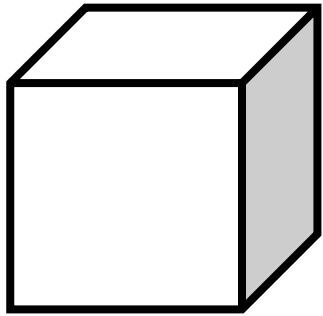


5 cm

150cm^2

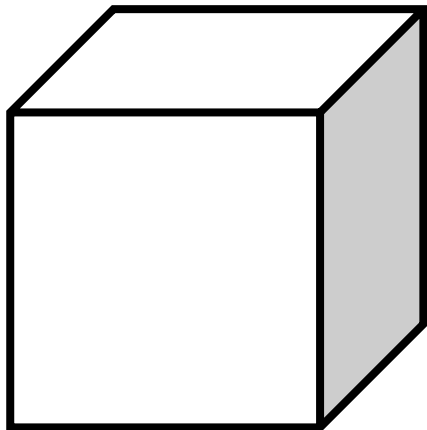
Worked example

Find x , given that the total surface area of the cube is:



54 cm^2

$x \text{ cm}$

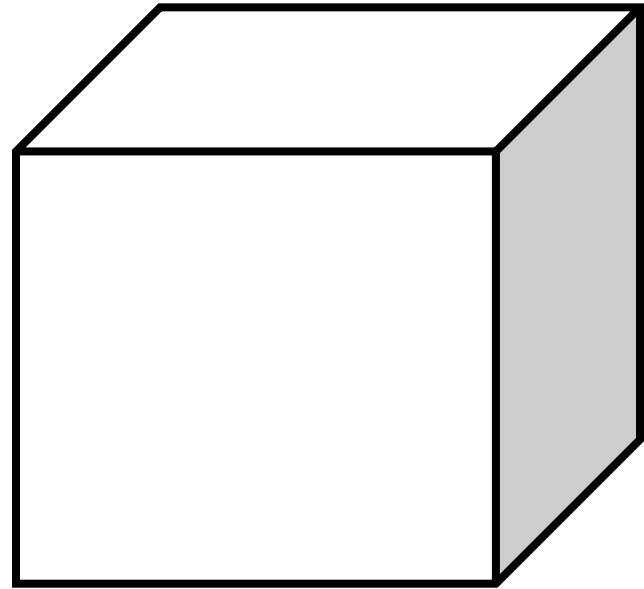


96 cm^2

$x \text{ cm}$

Your turn

Find x , given that the total surface area of the cube is 150 cm^2 :

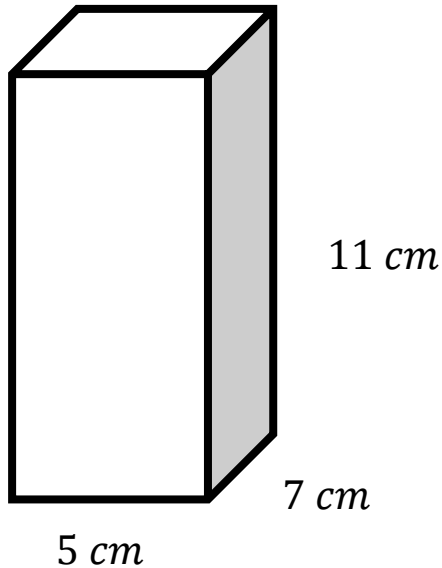
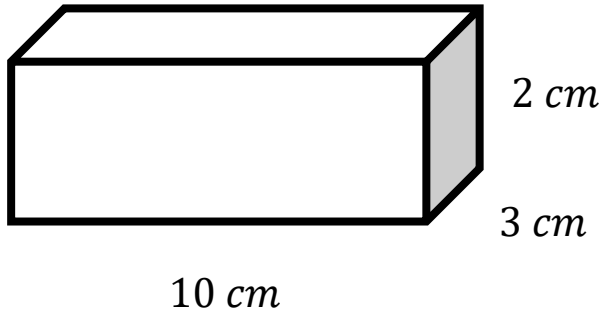


$x \text{ cm}$

$$x = 5$$

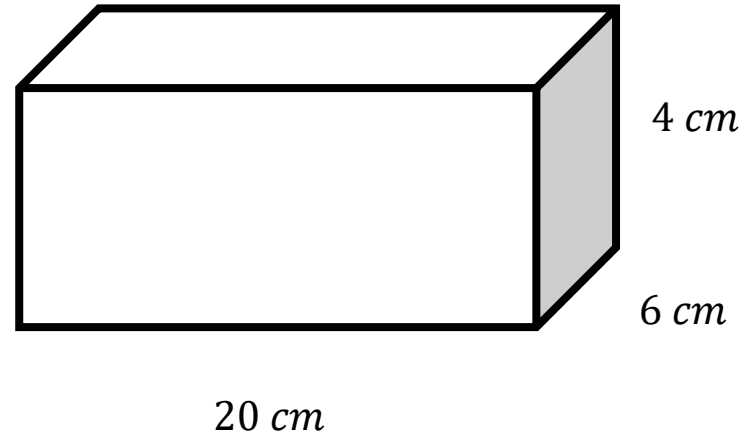
Worked example

Calculate the total surface area of the cuboid:



Your turn

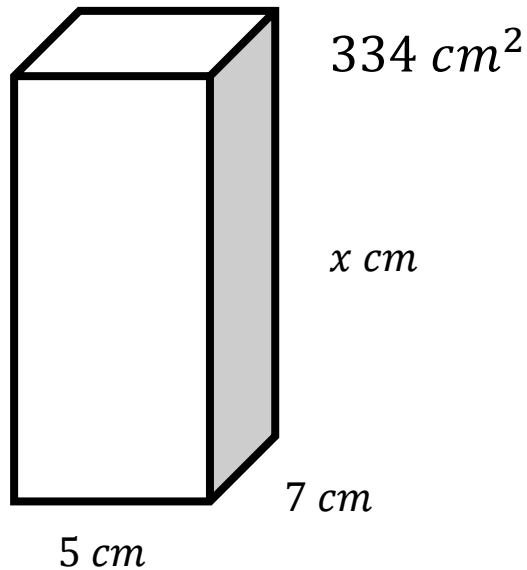
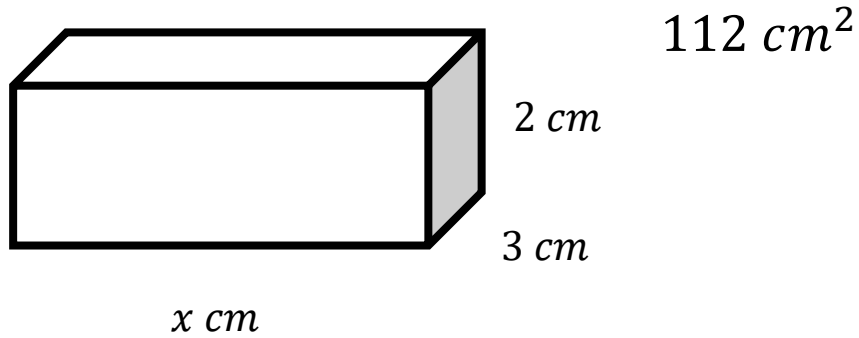
Calculate the total surface area of the cuboid:



448 cm^2

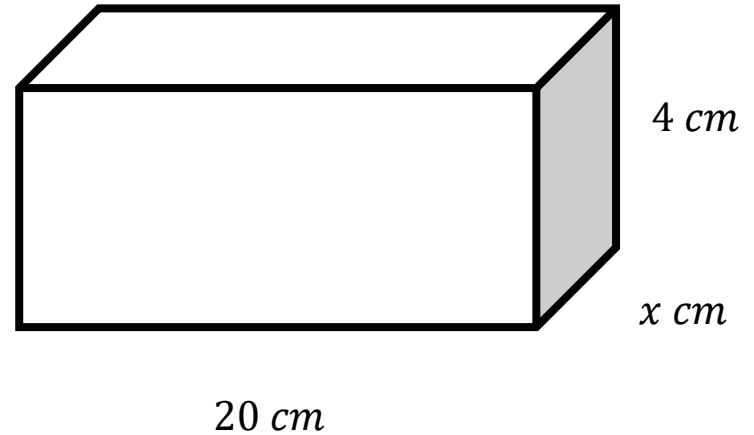
Worked example

Find x , given that the total surface area of the cuboid is:



Your turn

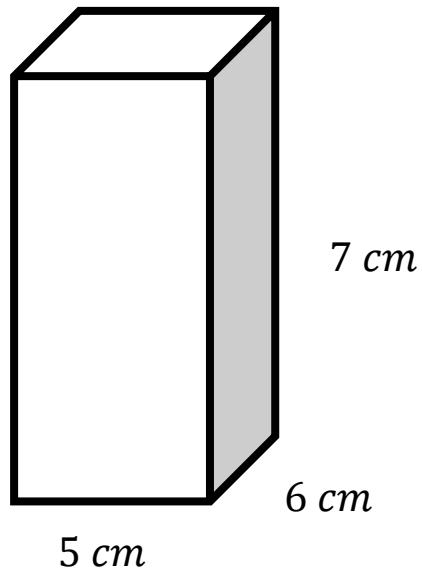
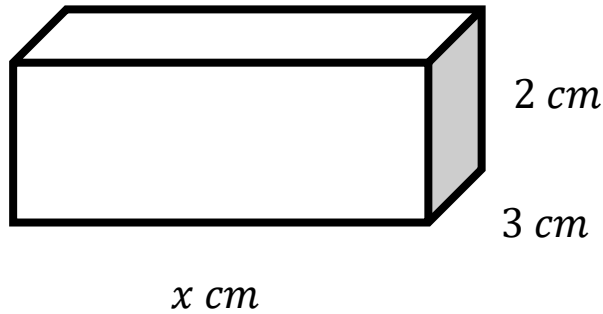
Find x , given that the total surface area is 448 cm^2



$$x = 6$$

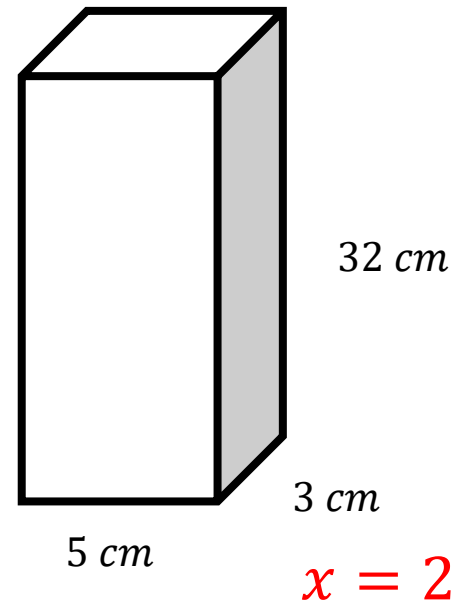
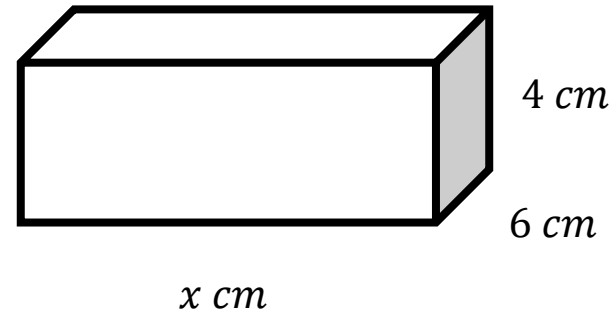
Worked example

Find x , given that the two cuboids have equal total surface area



Your turn

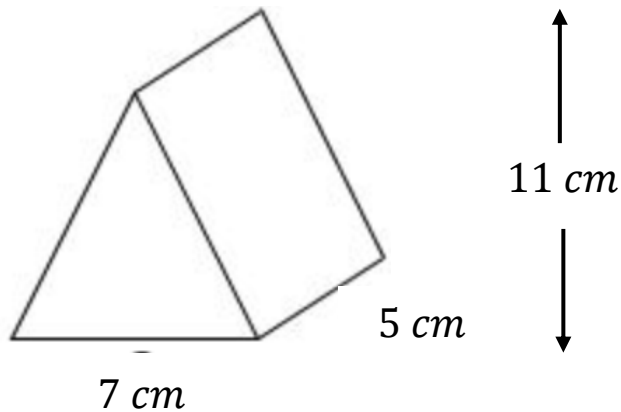
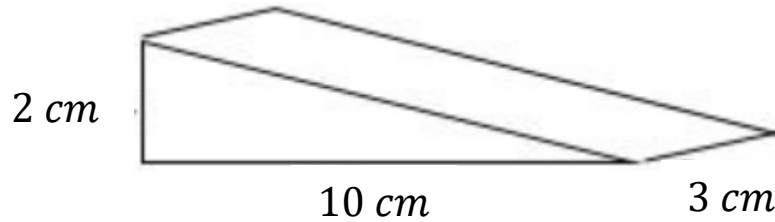
Find x , given that the two cuboids have equal total surface area



$$x = 24.7$$

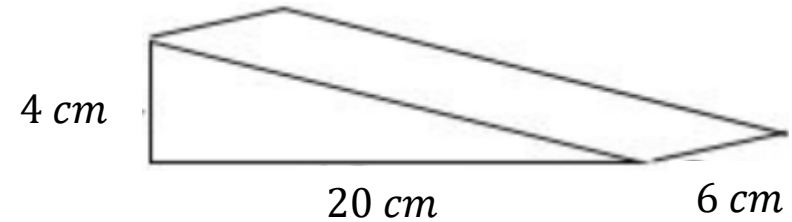
Worked example

Calculate the total surface area of the triangular prism:



Your turn

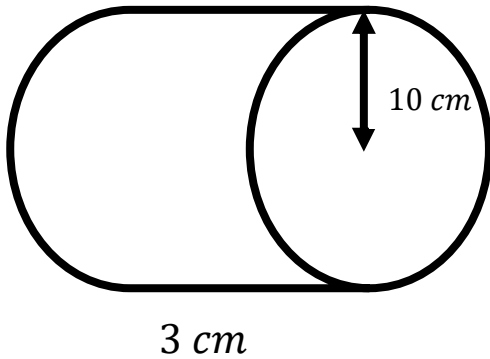
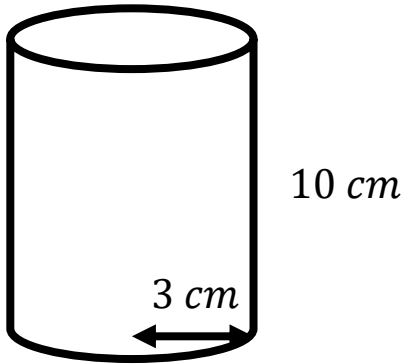
Calculate the total surface area of the triangular prism:



346.38 cm^2

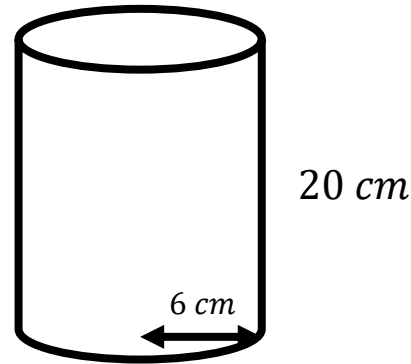
Worked example

Calculate the total surface area of the cylinder:



Your turn

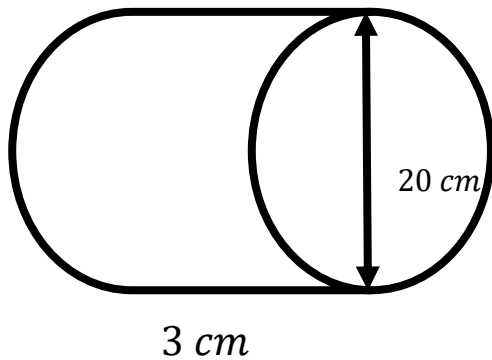
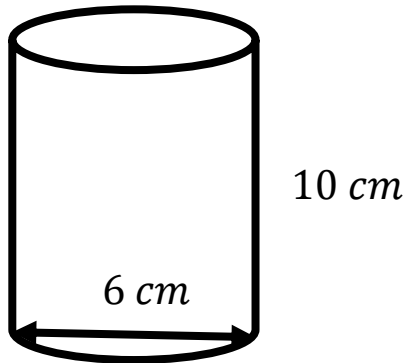
Calculate the total surface area of the cylinder



$$312\pi = 980.18\text{ cm}^2$$

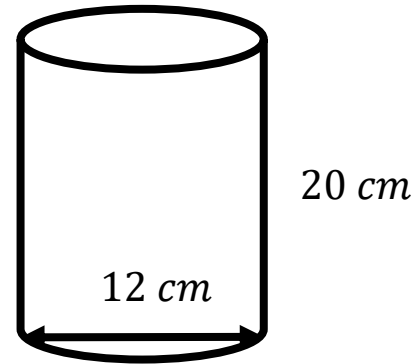
Worked example

Calculate the total surface area of the cylinder:



Your turn

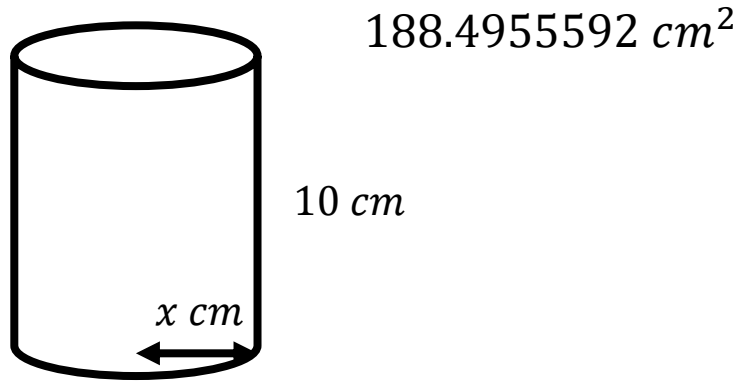
Calculate the total surface area of the cylinder:



$$312\pi = 980.18\text{ cm}^2$$

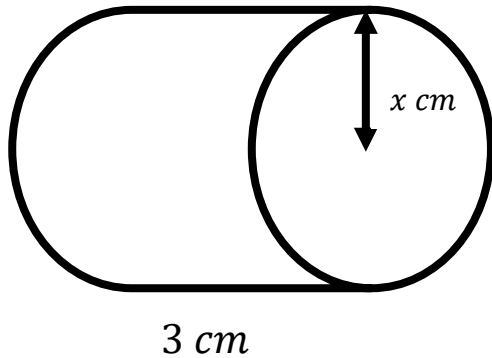
Worked example

Find x , given that the curved surface area of the cylinder is:



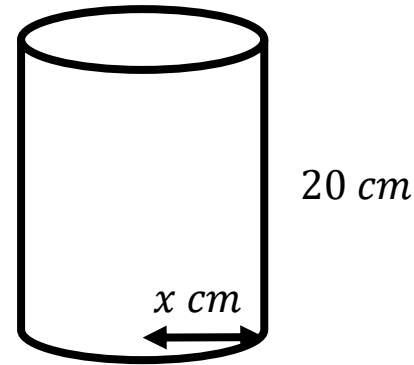
$$188.4955592\text{ cm}^2$$

$$60\pi\text{ cm}^2$$



Your turn

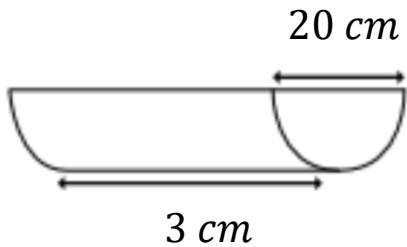
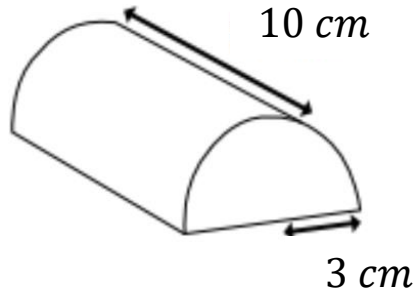
Find x , given that the curved surface area of the cylinder is 753.9822369 cm^2



$$x = 6$$

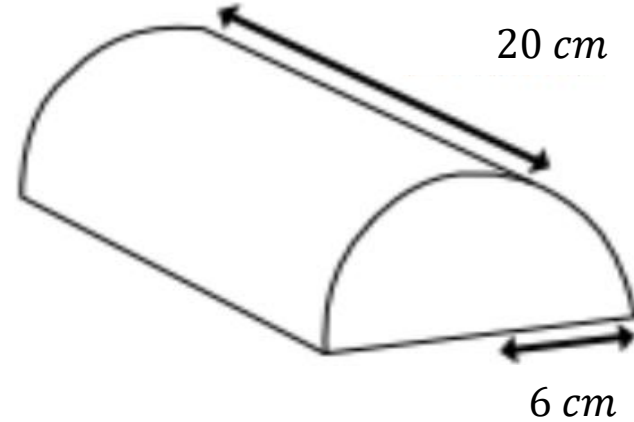
Worked example

Calculate the total surface area of:



Your turn

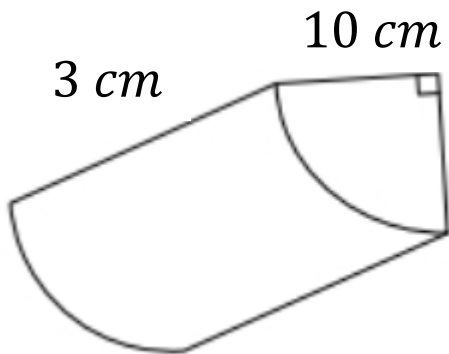
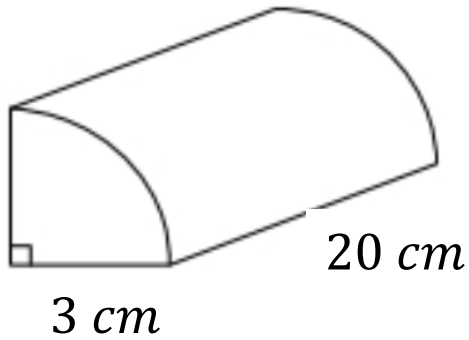
Calculate the total surface area of:



$$156\pi + 240 = 730.09 \text{ cm}^2 \text{ (2 dp)}$$

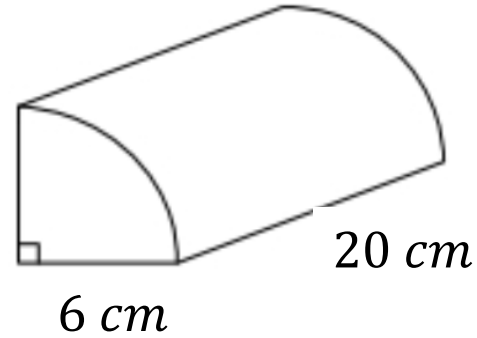
Worked example

Calculate the total surface area of:



Your turn

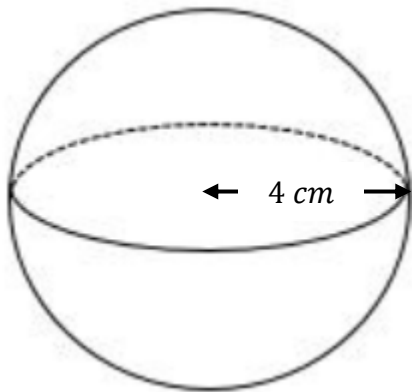
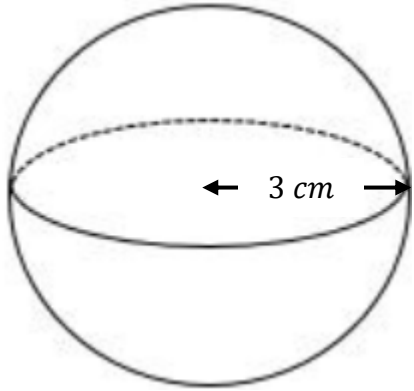
Calculate the total surface area of:



$$78\pi + 240 = 485.04 \text{ cm}^2 \text{ (2 dp)}$$

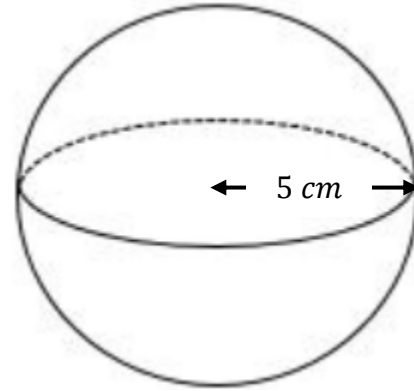
Worked example

Calculate the surface area of the sphere:



Your turn

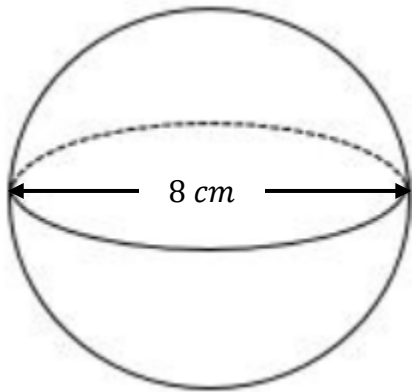
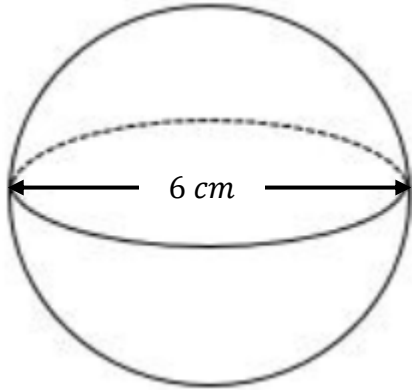
Calculate the surface area of the sphere:



$$100\pi = 314.16 \text{ cm}^2 \text{ (2 dp)}$$

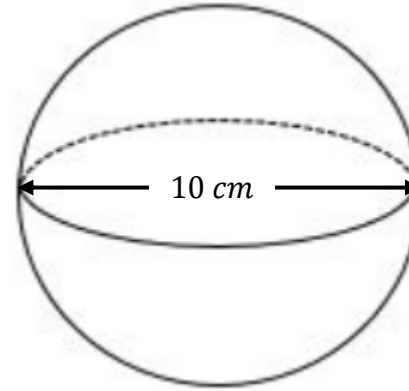
Worked example

Calculate the surface area of the sphere:



Your turn

Calculate the surface area of the sphere:

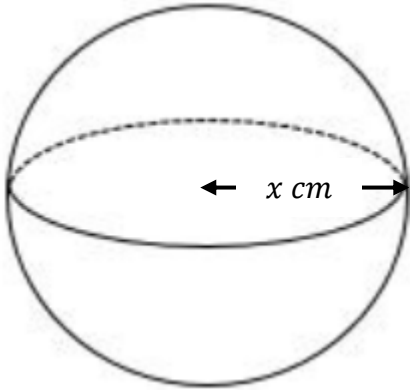


$$100\pi = 314.16 \text{ cm}^2 \text{ (2 dp)}$$

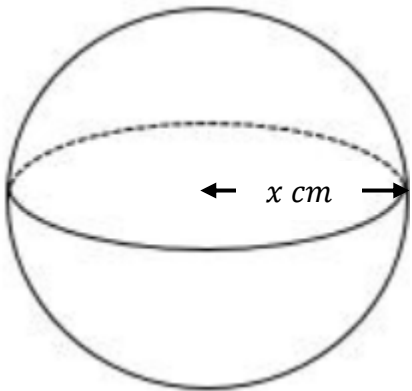
Worked example

Find x , given that the surface area of the sphere is:

$$113.0973355 \text{ cm}^3$$

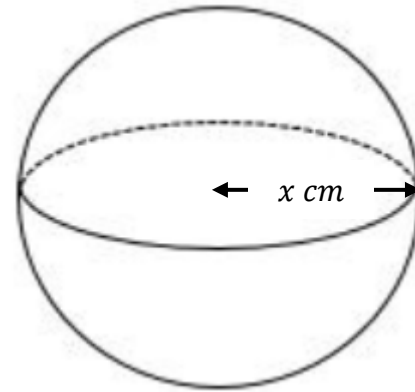


$$64\pi \text{ cm}^2$$



Your turn

Find x , given that the surface area of the sphere is 314.1592654 cm^2

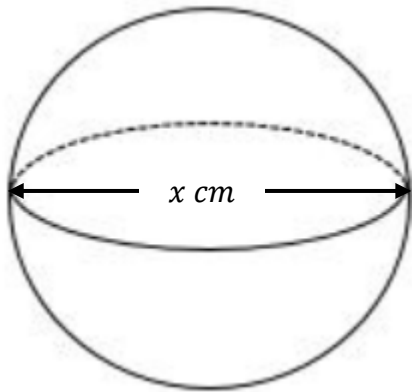
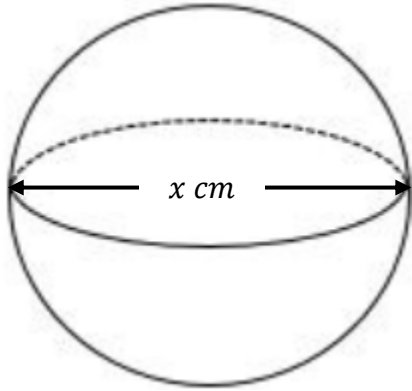


$$x = 5$$

Worked example

Find x , given that the surface area of the sphere is:

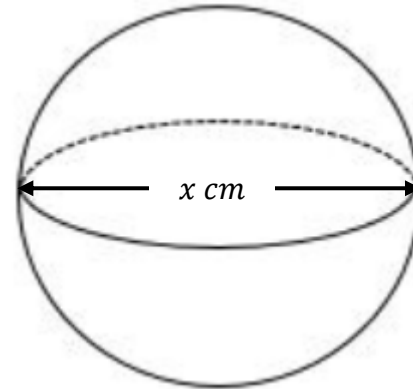
$$113.0973355 \text{ cm}^3$$



$$64\pi \text{ cm}^2$$

Your turn

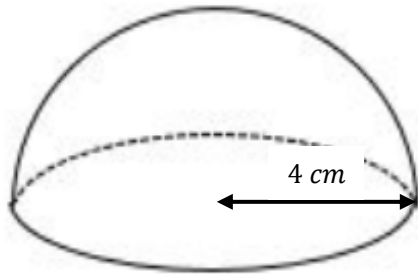
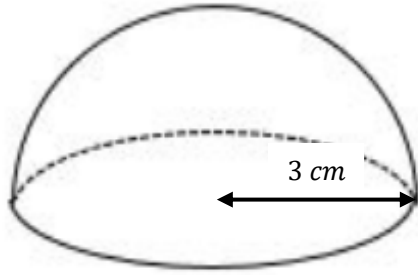
Find x , given that the surface area of the sphere is 314.1592654 cm^2



$$x = 10$$

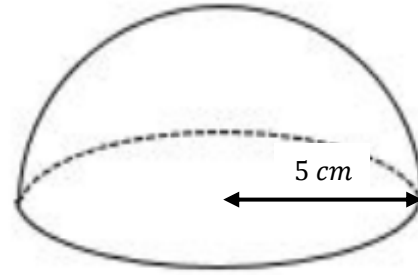
Worked example

Calculate the total surface area of the hemisphere:



Your turn

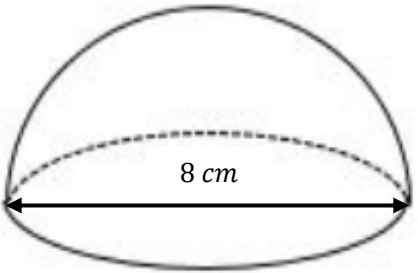
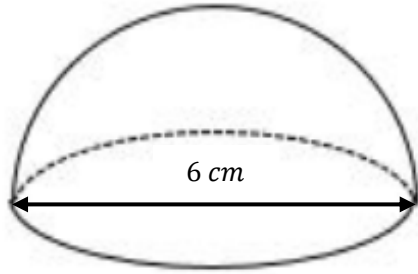
Calculate the total surface area of the hemisphere:



$$75\pi = 235.62 \text{ cm}^2 \text{ (2 dp)}$$

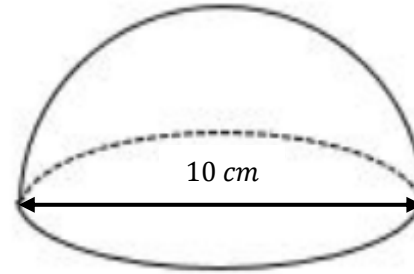
Worked example

Calculate the total surface area of the hemisphere:



Your turn

Calculate the total surface area of the hemisphere:

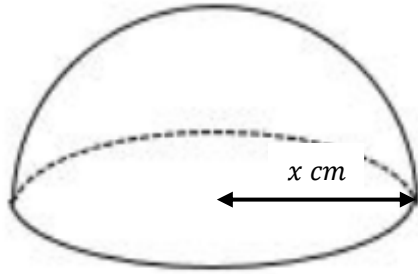


$$75\pi = 235.62 \text{ cm}^2 \text{ (2 dp)}$$

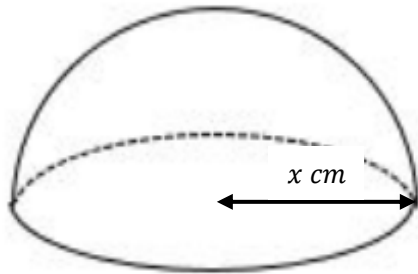
Worked example

Find x , given that the total surface area of the hemisphere is

$$84.82300165 \text{ cm}^2$$

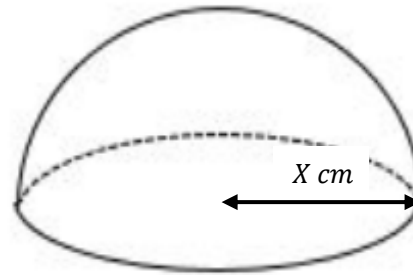


$$48\pi \text{ cm}^2$$



Your turn

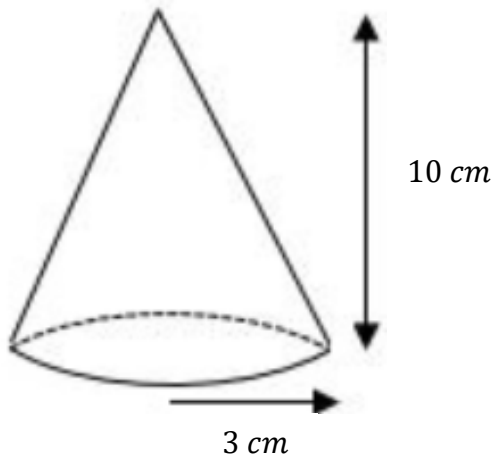
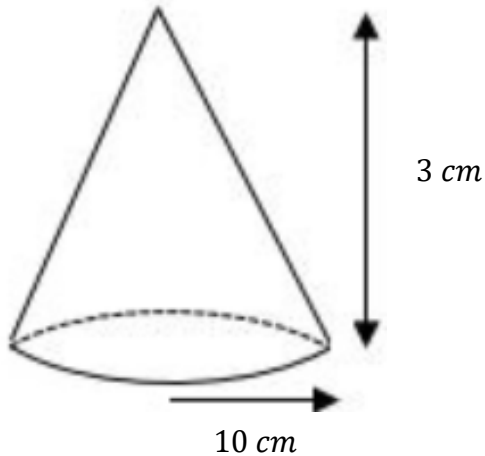
Find x , given that the total surface area of the hemisphere is 235.619449 cm^2



$$x = 5$$

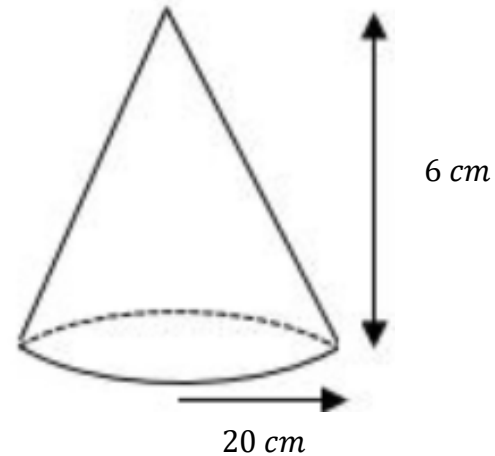
Worked example

Calculate the curved surface area of the cone:



Your turn

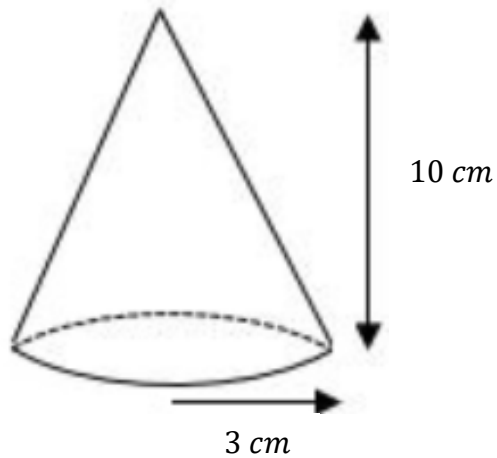
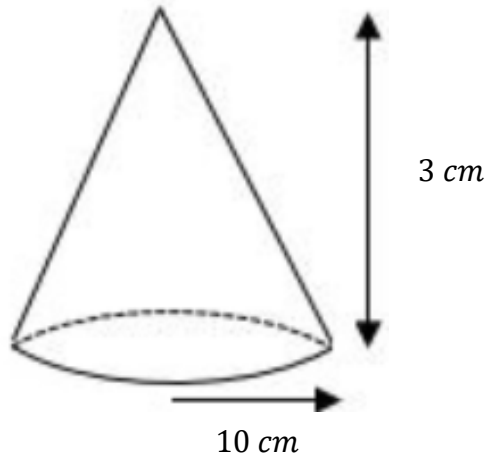
Calculate the curved surface area of the cone:



1311.97 cm^2 (2 dp)

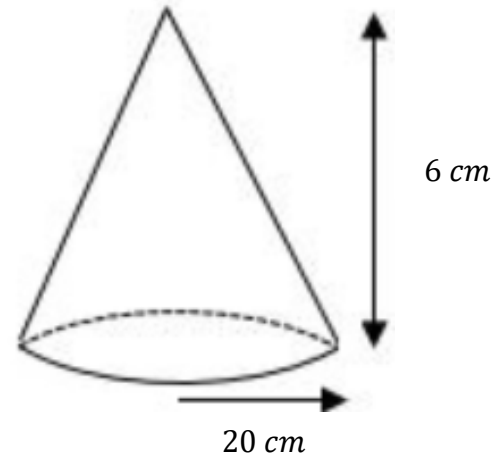
Worked example

Calculate the total surface area of the cone:



Your turn

Calculate the total surface area of the cone:

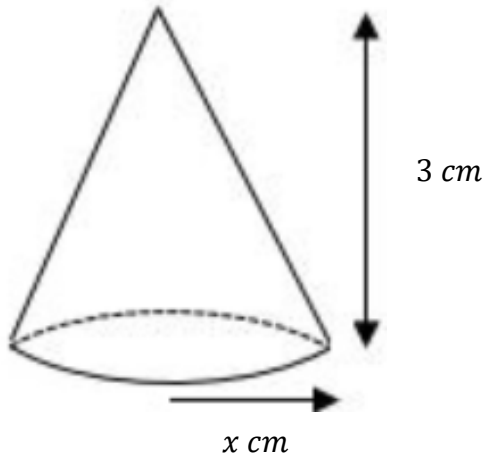


2568.60 cm^2 (2 dp)

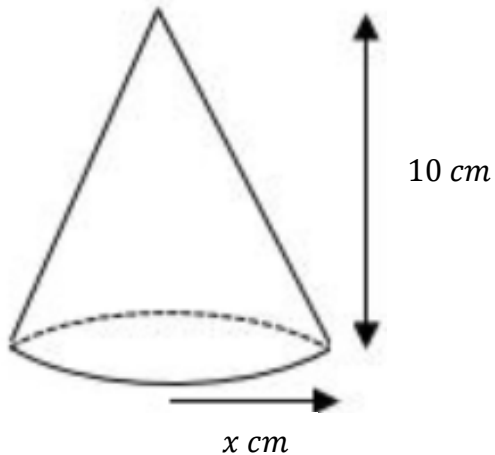
Worked example

Find x , given that the total surface area of the cone is:

$$642.1511677 \text{ cm}^2$$

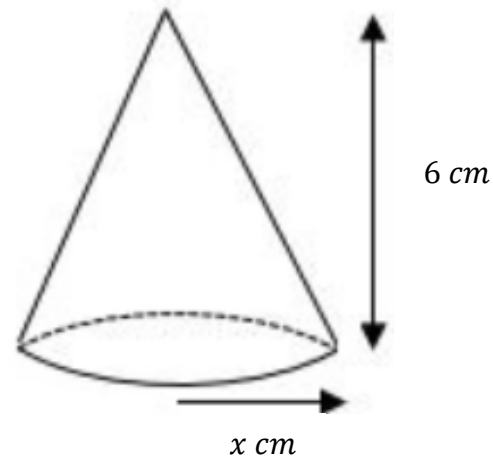


$$126.6719046 \text{ cm}^2$$



Your turn

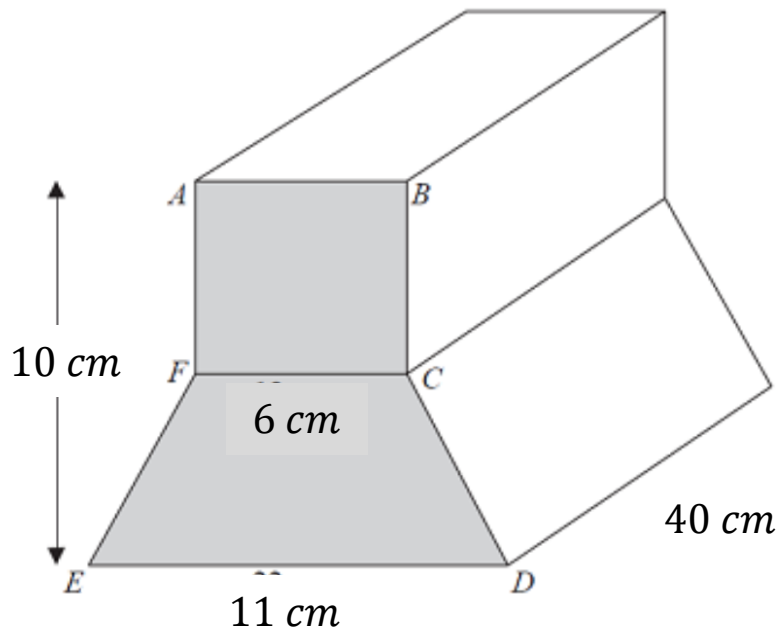
Find x , given that the total surface area of the cone is 2568.604671 cm^2



$$x = 20$$

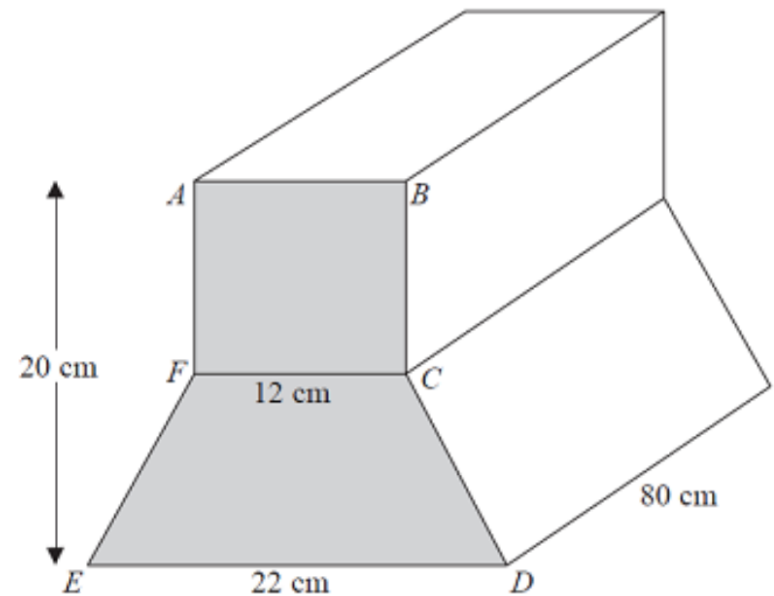
Worked example

ABCF is a square.
FCDE is an isosceles trapezium.
Calculate the total surface area of this prism



Your turn

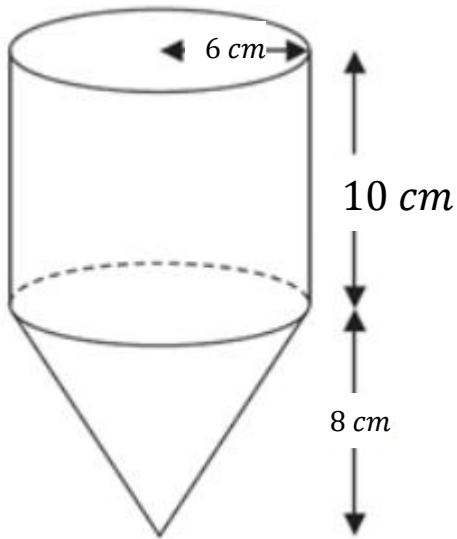
ABCF is a square.
FCDE is an isosceles trapezium.
Calculate the total surface area of this prism



$$6709.44 \text{ cm}^2 \text{ (2 dp)}$$

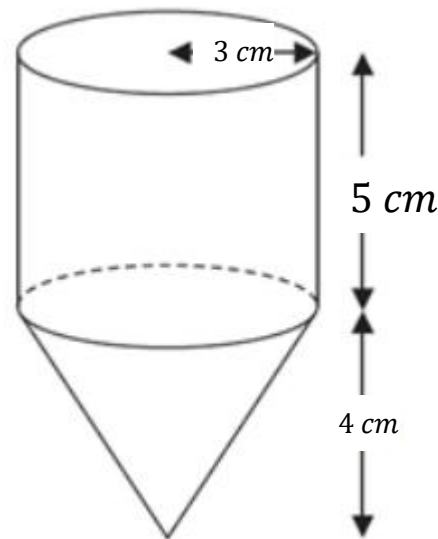
Worked example

Calculate the total surface area of this composite shape



Your turn

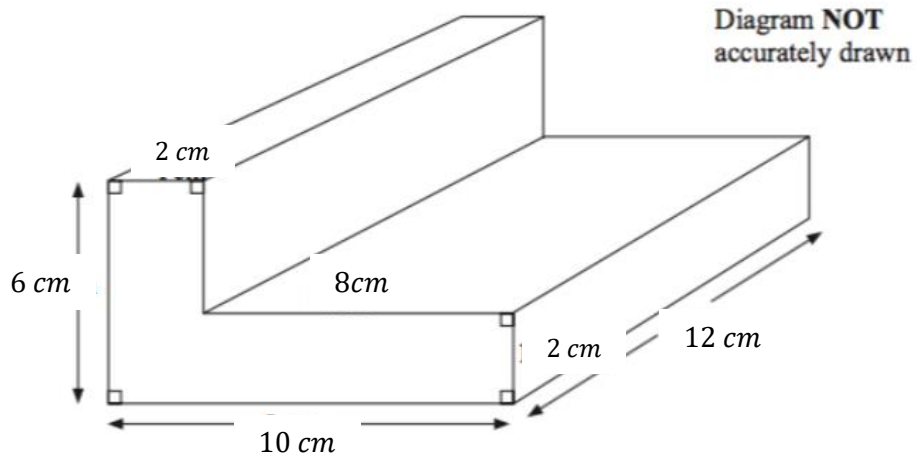
Calculate the total surface area of this composite shape



$$54\pi = 169.65 \text{ cm}^2 \text{ (2 dp)}$$

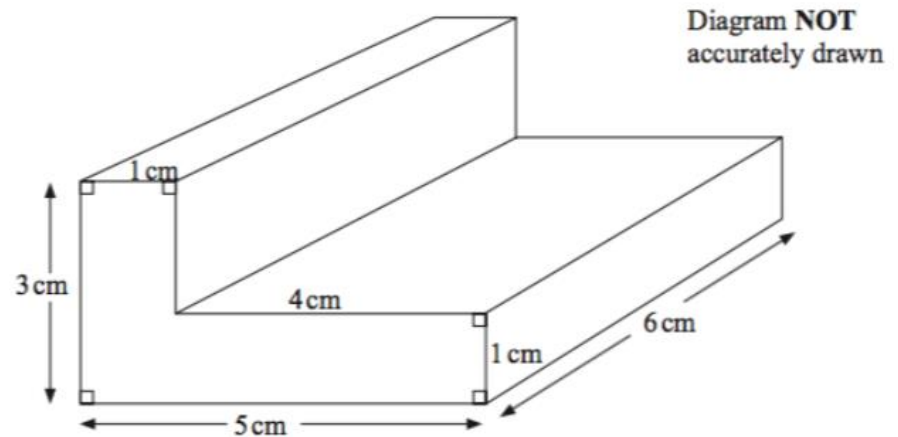
Worked example

Calculate the total surface area of this L-shaped prism



Your turn

Calculate the total surface area of this L-shaped prism



$$110 \text{ cm}^2$$

Worked example

A sphere has a surface area of $144\pi \text{ cm}^2$.

Work out the volume of the sphere

Your turn

A sphere has a surface area of $36\pi \text{ cm}^2$.

Work out the volume of the sphere

$$36\pi \text{ cm}^3$$

Worked example

A sphere has a volume of $288\pi \text{ cm}^3$.
Work out the surface area of the sphere

Your turn

A sphere has a volume of $36\pi \text{ cm}^3$.
Work out the surface area of the sphere

$$36\pi \text{ cm}^2$$