# Surface area: Further problem solving

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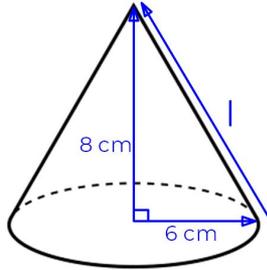
1. The diagram shows a cone.

8 cm

l

6 cm

Surface area of a cone
= $\pi r^2 + \pi r l$, where l is the slant height

a) Work out the slant height of the cone.
b) Use the given formula to work out the surface area of the cone.

2. Amir has a glass marble.

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Surface area of a sphere = $4\pi r^2$

He knows the surface area of the marble is 18 cm$^2$.
Work out the radius of Amir's marble, give your answer to 1 decimal place.

# Surface area: Further problem solving

3. The diagram shows a square based pyramid with a perpendicular height of 12 cm.



12 cm

10 cm
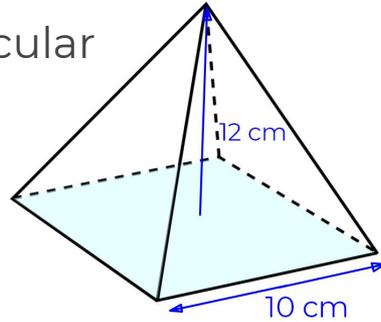
a) Work out the  height of each triangular face.

b) Work out the total surface area of the pyramid.

# Answers

# Surface area: Further problem solving

1. The diagram shows a cone.



8 cm
l
6 cm
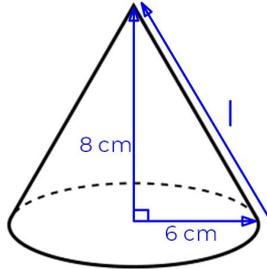
Surface area of a cone
$= \pi r^2 + \pi rl$, where l is the slant height

a) Work out the slant height of the cone.          **10 cm**

b) Use the given formula to work out the surface area of the cone.

**$36\pi + 60\pi = 96\pi$ (301.6) cm$^2$**

2. Amir has a glass marble.



Needpix

Surface area of a sphere $= 4\pi r^2$

He knows the surface area of the marble is 18 cm$^2$.
Work out the radius of Amir's marble, give your answer to 1 decimal place.

**1.2 cm**

# Surface area: Further problem solving

3. The diagram shows a
square based pyramid
with a perpendicular
height of 12 cm.

12 cm

10 cm
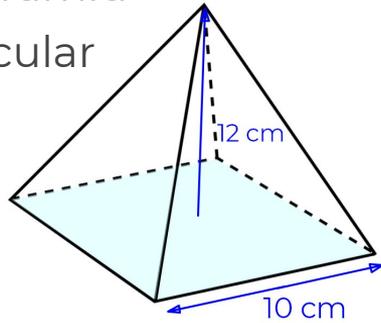
a) Work out the  height of each
triangular face.      13 cm

b) Work out the total surface area
of the pyramid.     $100 + 4 \times 65 = 360$ cm$^2$