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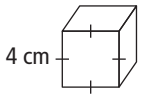
BLM 3–7

Section 3.4 Extra Practice

1. What is the volume of a cube with a side length of 4 cm? Show your work.



$V = s^3$

2. A colony of bacteria triples every hour. There are 30 bacteria now. How many will there be after each amount of time? Show your work.

a) 1 h

# of bacteria after 1 h = $30(3)^1$

= _____

b) 3 h

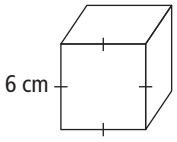
# of bacteria after 3 h = $30(3)^{\square}$

= _____

c) 5 h

d) *n* h

3. What is the surface area of a cube with a side length of 6 cm? Show your work.



$SA = 6s^2$

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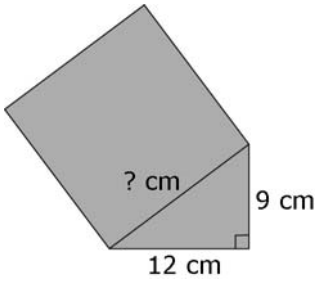
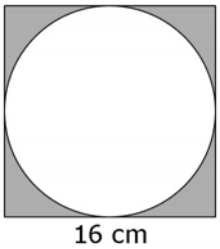
4. Find the side length of the square attached to the hypotenuse in the diagram. Show your work.

$c^2 = a^2 + b^2$. Find c.



5. The diagram shows a circle inscribed in a square with a side length of 16 cm. What is the area of the shaded region? Round your answer to the nearest hundredth of a square centimetre. Show your work.

$A = s^2$, $A = \pi r^2$



Area of shaded region = Area of _____ − area of _____

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6. A formula used to calculate the distance a skydiver falls is $d = 4.9t^2$.
d is the total distance, in metres.
t is the time, in seconds.
Calculate the distance the skydiver falls in the following times.
Show your work.

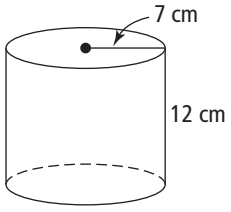
a) 2 s

Substitute into the formula.

b) 4 s

7. A cylinder has a radius of 7 cm and a height of 12 cm.
Calculate its surface area.
Round your answer to the nearest hundredth of a square centimetre.
Show your work.

$SA = 2\pi r^2 + 2\pi rh$



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