

Target F-2 Extra Practice 1

1. Fill in each blank.

To find the total surface area of a 3-D object:

- a) _____ the number of faces.
- b) Calculate the _____ of each face.
- c) Find the _____ of the surface areas of the faces.

For #2 and #3, calculate the surface area of each prism to the nearest tenth of a centimetre.

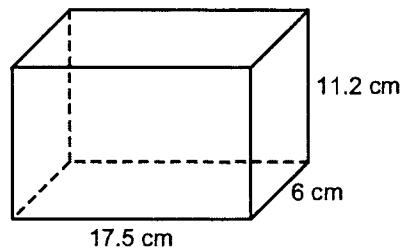
2. a) Number of faces _____

b) $2 \times (11.2 \times 17.5) = \underline{\hspace{2cm}} \text{ cm}^2$

$2 \times (11.2 \times 6) = \underline{\hspace{2cm}} \text{ cm}^2$

$2 \times (17.5 \times 6) = \underline{\hspace{2cm}} \text{ cm}^2$

c) Total surface area



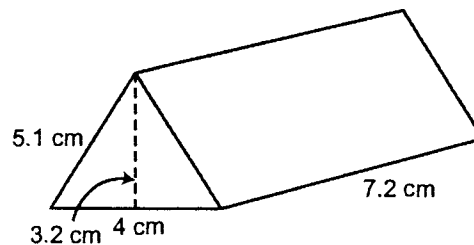
3. a) Number of faces _____

b) $2 \times \frac{(3.2 \times 4)}{2} = \underline{\hspace{2cm}} \text{ cm}^2$

$2 \times (5.1 \times 7.2) = \underline{\hspace{2cm}} \text{ cm}^2$

$1 \times (4 \times 7.2) = \underline{\hspace{2cm}} \text{ cm}^2$

c) Total surface area



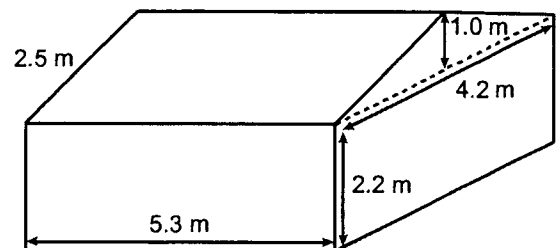
4. Rahim's dad wants to paint the outside of his garage, including the roof.

a) How many sides of the garage

need to be painted? _____

b) Name the two shapes that make up the front and the back side of the garage.

_____ and



c) Calculate the total surface area that needs to be painted. Show your work. Round your answer to the nearest tenth of a metre.

Extra Practice Answers

- 1.** count or add; area; sum or total
- 2.**
 - a)** 6
 - b)** 392.0 cm^2 ; 134.4 cm^2 ; 210.0 cm^2
 - c)** 736.4 cm^2
- 3.**
 - a)** 5
 - b)** 12.8 cm^2 ; 73.4 cm^2 ; 28.8 cm^2
 - c)** 115 cm^2
- 4.**
 - a)** 6
 - b)** rectangle; triangle
 - c)** 72.5 m^2

Target F-2 Extra Practice 2

For #1 and #2, fill in each blank.

1. a) The net of a cylinder is made up of one _____ and two _____.

b) The width of the rectangle in the net of a cylinder is equal to the _____ of the circle.

2. The radius of a circle is _____ the diameter.

3. Give the formula for the surface area of a cylinder.

S.A. =

4. Estimate the total surface area of each cylinder. Show your work.

Radius	Height	Area of One Circle	Area of Two Circles	Area of Rectangle	Total Surface Area
Example: 2.8 cm	10 cm	$\pi \times r^2 \approx 3 \times (3)^2$ $\approx 3 \times 9$ $\approx 27 \text{ cm}^2$	54 cm ²	$l \times w$ $\approx (\pi \times d) \times w$ $\approx 3 \times 6 \times 10$ $\approx 180 \text{ cm}^2$	180 + 54 = 234 cm ²
a) 5 cm	6 cm				
b) 6.2 cm	12.3 cm				
c) 10.7 cm	17.4 cm				

5. Use the formula for the surface area of a cylinder to calculate the total surface area of each cylinder to the nearest hundredth of a centimetre. Use 3.14 for π . Show your work.

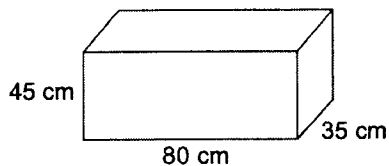
Radius	Height	Calculation $S.A. = 2 \times (\pi \times r^2) + (\pi \times d \times h)$	Total Surface Area
Example: 2.8 cm	10 cm	$S.A. = 2 \times (3.14 \times 7.84) + 3.14 \times 5.6 \times 10$ $= 49.24 + 175.84$	225.08 cm ²
a) 5 cm	6 cm		
b) 6.2 cm	12.3 cm		
c) 10.7 cm	17.4 cm		

Extra Practice Answers

1. **a)** rectangle, circles
b) diameter
2. half
3. $S.A. = 2 \times (\pi \times r^2) + (\pi \times d \times h)$
4. Answers may vary. Example:
 - a)** 75 cm^2 ; 150 cm^2 ; 180 cm^2 ; 330 cm^2
 - b)** 108 cm^2 ; 216 cm^2 ; 360 cm^2 ; 576 cm^2
 - c)** 300 cm^2 ; 600 cm^2 ; 1000 cm^2 ; 1600 cm^2
5. **a)** 345.4 cm^2
b) 720.31 cm^2
c) 1888.21 cm^2

Lesson 4.3: Surface Area of a Right Rectangular Prism

1. Find the surface area of a rectangular prism measuring 5 m by 8 m by 9 m. Include a diagram.
2. Tracy made a stained-glass jewellery box. It measured 20 cm by 12 cm by 8 cm.
 - a) About how much glass did Tracy use?
 - b) One piece of glass has an area of 100 cm^2 and costs \$3.65. How much did the glass cost?
3. The surface area of a cube is 150 cm^2 .
 - a) What is the area of one face of the cube?
 - b) What is the length of one edge of the cube?
4. An open aquarium measures 80 cm by 35 cm by 45 cm. What is the surface area of the aquarium?

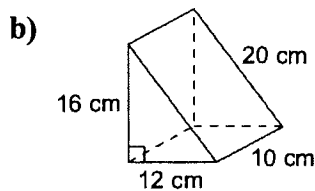
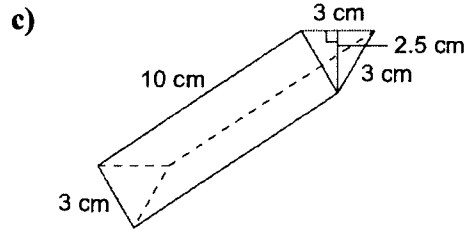
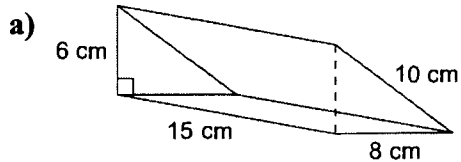


Extra Practice 3 Answers

1. 314 m^2
2.
 - a) 992 cm^2
 - b) Tracy needs to buy 10 pieces, so the glass costs:
 $10 \times \$3.65 = \36.50
3.
 - a) 25 cm^2
 - b) 5 cm
4. $13\,150 \text{ cm}^2$

Lesson 4.4: Surface Area of a Right Triangular Prism

1. Find the surface area of each triangular prism.



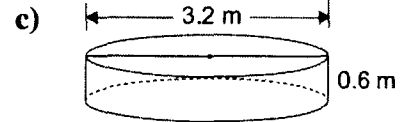
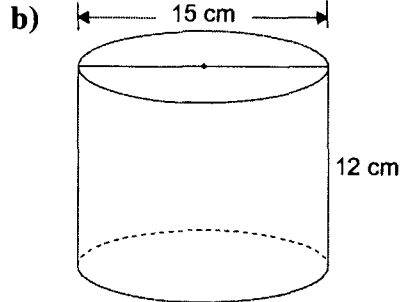
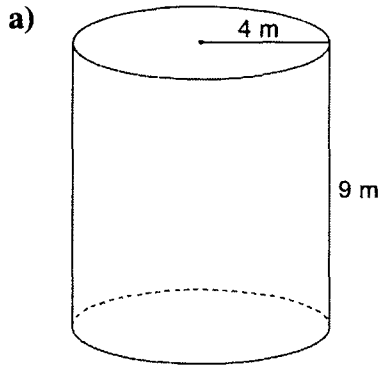
2. The length of a triangular prism is 5 cm. The side lengths of each triangular face are 5 cm, 5 cm, and 6 cm. The height of each triangular face is 4 cm. Find the surface area of the triangular prism.
3. A triangular prism has a right isosceles triangle as its base. The base of the triangle is 10 cm and its height is 10 cm. The length of the prism is also 10 cm. Sketch the prism and find its surface area.
4. A triangle has side lengths 10 mm, 24 mm, 26 mm. What kind of triangle is this? Find the surface area of the corresponding prism with length:
- 10 cm
 - 25 cm

Extra Practice 4 Answers

1.
 - a) 408 cm²
 - b) 672 cm²
 - c) 97.5 cm²
2. 104 cm²
3. 441.4 cm²
4. Right triangle
 - a) 840 mm²
 - b) 1740 mm²

Lesson 4.7: Surface Area of a Right Cylinder

1. Calculate the surface area of each cylinder.



2. Find the surface area of a cylinder with the following dimensions:

- height 10 cm, radius 3 cm
- height 8 mm, diameter 12 mm

3. A cylindrical-shaped building block is to be painted. It has diameter 5.3 cm and height 12 cm.

Calculate the surface area to be painted.

4. A cylindrical candle has diameter 9 cm and height 12 cm.

It is placed in a cylindrical box.

There is a space of 0.5 cm between the candle and the box to allow for packing material.

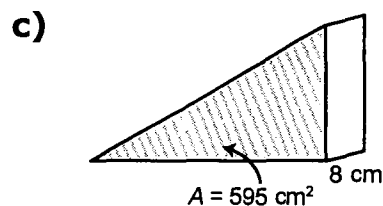
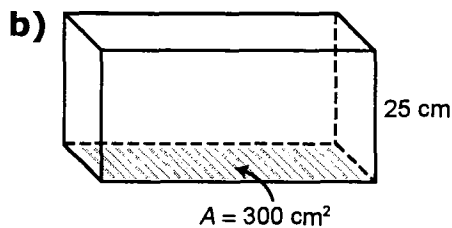
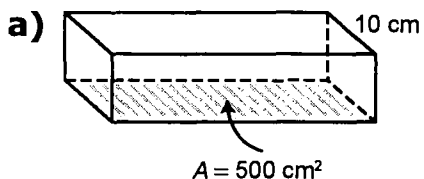
- What is the height of the cylindrical box?
- What is the radius of the cylindrical box?
- What is the surface area of the box?

Extra Practice 7 Answers

1.
 - a) 327 m^2
 - b) 919 cm^2
 - c) 22.1 m^2
2.
 - a) 245 cm^2
 - b) 528 mm^2
3. 244 cm^2
4.
 - a) 13 cm
 - b) 5 cm
 - c) 565.5 cm^2

Target F-3 Extra Practice 1

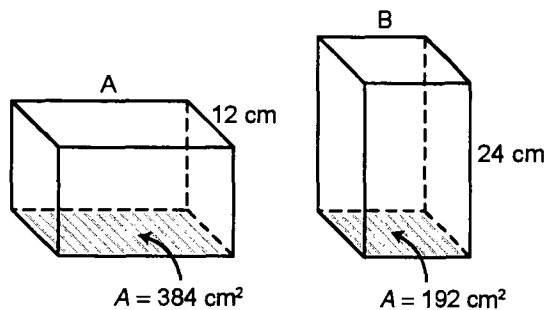
1. Determine the volume of each rectangular prism.



2. a) What is the volume of Box A?

b) What is the volume of Box B?

c) Are their volumes the same? Explain.



3. What is the height of each rectangular prism?

a) volume = 108 cm^3 , area of base = 12 cm^2 _____

b) volume = 80 cm^3 , area of base = 16 cm^2 _____

c) area of base = 110 cm^2 , volume = 110 cm^3 _____

4. The Canola Oil Company is designing cans for its oil. Their cans hold 1 L, which is 1000 cm^3 . The area of the base of their can is 80 cm^2 . How tall is the can? Show your answer to one decimal place.

Extra Practice Answers

1. **a)** 5000 cm^3
b) 7500 cm^3
c) 4760 cm^3

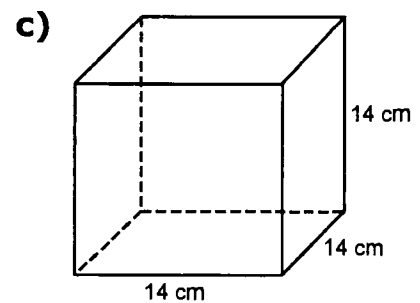
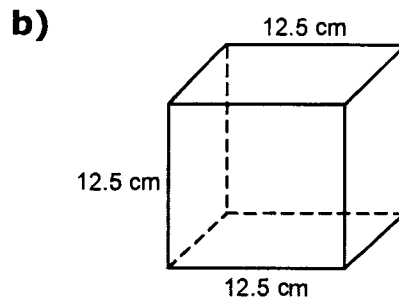
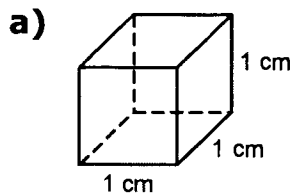
2. **a)** 4608 cm^3
b) 4608 cm^3
c) It is the same box (same dimensions).The orientation has been changed.

3. **a)** 9 cm
b) 5 cm
c) 1 cm

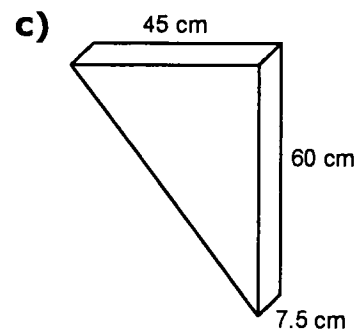
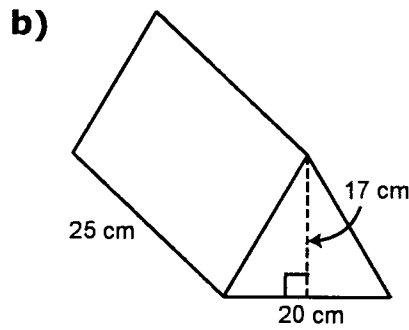
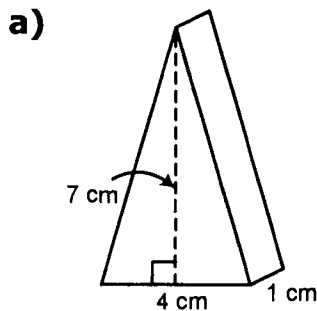
4. 12.5 cm

Target F-3 Extra Practice 2

1. Determine the volume of each cube.

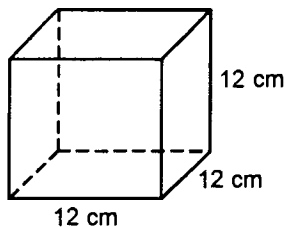


2. What is the volume of each right triangular prism?

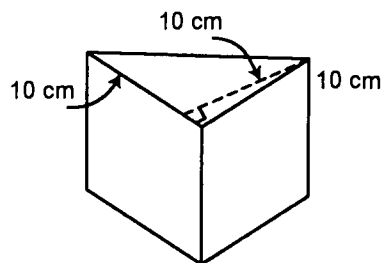


3. Determine the volume of the contents of each right prism.

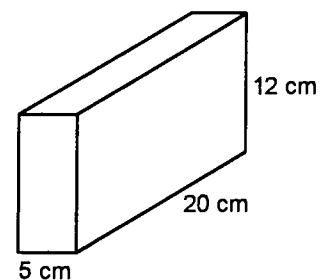
a) $\frac{3}{4}$ full



b) $\frac{1}{2}$ full



c) $\frac{2}{5}$ full



4. What is the area of the base of each right triangular prism?

a) volume = 90 cm^3 , height = 10 cm

b) volume = 864 cm^3 , height = 6 cm

c) volume = 1 cm^3 , height = 1 cm

Extra Practice Answers

1. a) 1 cm^3 b) 1953.125 cm^3 c) 2744 cm^3

2. a) 14 cm^3 b) 4250 cm^3 c) $10\,125 \text{ cm}^3$

3. a) 1296 cm^3 b) 250 cm^3 c) 480 cm^3

4. a) 9 cm^2 b) 144 cm^2 c) 1 cm^2

