

Name: _____

Date: _____

5.3 Surface Area of a Prism

MathLinks 8, pages 176–181

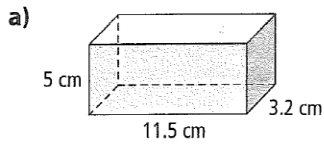
Key Ideas Review

1. Complete the statement.

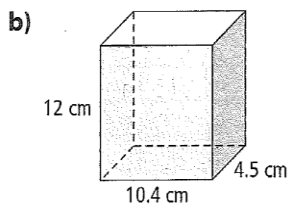
Finding the sum of all the areas of each face / side on a 3-D object is called calculating the surface area.

Practise and Apply

2. Calculate the surface area of each rectangular prism to the nearest tenth of a centimetre squared.

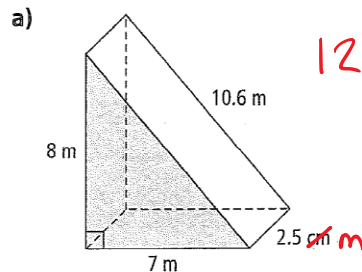


220.6 cm^2

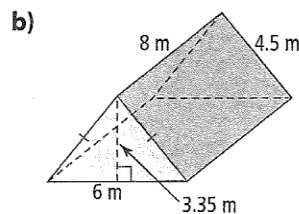


451.2 cm^2

3. Find the surface area of each triangular prism to the nearest tenth of a meter squared.



120 m^2

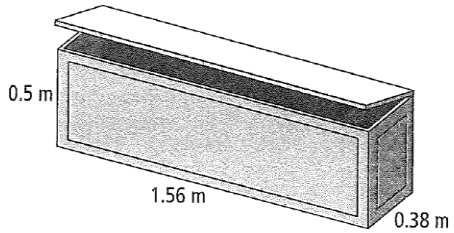


140.1 m^2

Name: _____

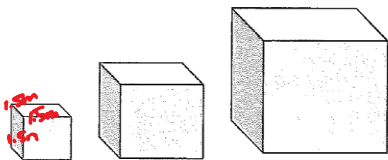
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4. Ty is painting this storage bench for the deck. How much area does he need to paint, to the nearest hundredth of a square metre?



$$3.13 \text{ m}^2$$

5. Peter needs to paint three boxes for a project. The boxes measure $1.5 \text{ m} \times 1.5 \text{ m} \times 1.5 \text{ m}$, $2.5 \text{ m} \times 2.5 \text{ m} \times 2.5 \text{ m}$, and $3.5 \text{ m} \times 3.5 \text{ m} \times 3.5 \text{ m}$ respectively. What is the total surface area that Peter will paint, if he paints the outside of all of the boxes?



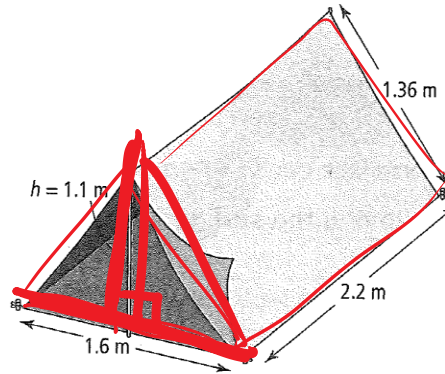
$$(1.5 \times 1.5) \times 6 = 13.5 \text{ m}^2$$

$$(2.5 \times 2.5) \times 6 = 37.5 \text{ m}^2$$

$$(3.5 \times 3.5) \times 6 = 73.5 \text{ m}^2$$

$$13.5 + 37.5 + 73.5 = 124.5 \text{ m}^2$$

6. The Rileys need to make a new cover for their tent before going camping this summer. Their tent measures 2.2 m in length by 1.6 m wide, and it has a height of 1.1 m.



- a) Calculate the amount of material they need to make the new cover.

Front+Back Right Left

$$\frac{1}{2} \times 1.6 \times 1.1 = 0.88 \text{ m}^2$$

$$2.99 \text{ m}^2 \times 1.36 \text{ m} = 4.0664 \text{ m}^2$$

$$2.99 \text{ m}^2 \times 1.36 \text{ m} = 4.0664 \text{ m}^2$$

Bottom

$$\frac{1.1 \times 1.6}{2} = 0.88 \text{ m}^2$$

$$0.88 \times 2 = 1.76 \text{ m}^2$$

$$3.52 \text{ m}^2 \times 1.6 \text{ m} = 5.632 \text{ m}^2$$

$$1.76 + 2.99 + 2.99 + 5.632 = 13.372 \text{ m}^2$$

$$= 7.74 \text{ m}^2$$

- b) Waterproof material at the Fabric Warehouse is on sale this week for \$24.95 a square metre. Calculate the cost to make the new cover.

$$7.74 \text{ m}^2 \times \$24.95 = \$193.11$$