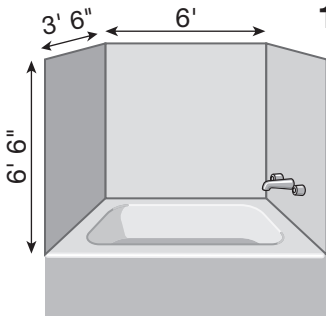


Chapter Review



1. Almira is tiling the walls around a bathtub. Small bathroom tiles are 1 sq in., and 144 tiles are placed on each sheet of mesh. (There's a space between the tiles for the grout to fill.)

a) Estimate the area of one mesh sheet in square feet.
about 1 sq ft

b) How many sheets does Almira need to cover the walls?

$$\text{Area: } 2(6.5 \text{ ft} \times 3.5 \text{ ft}) + 6.5 \text{ ft} \times 6 \text{ ft} = 84.5 \text{ sq ft}$$

She needs about 85 sheets.

Hint

Use the charts and formulas inside the back cover.

2. Express each area in the units given. If necessary, round your answer to the nearest unit.

a) the field inside an Olympic track, 1 ha: 10 000 m²

b) the fenced area around a working oil rig, 11 000 sq ft:
1222 sq yd

c) a finished jigsaw puzzle, 16 in. by 20 in.:
320 sq in. or 2065 cm²

d) the square base of the world's tallest building (in 2009), the Burj Khalifa, 3 595 100 sq ft:
323 559 m² or 32 ha

3. What is the radius of the circle, to the nearest tenth?

$$\text{e.g., } 324 \text{ sq in.} = \pi r^2$$

$$324 \text{ sq in.} \div \pi = r^2$$

$$\sqrt{(324 \div \pi)} = r$$

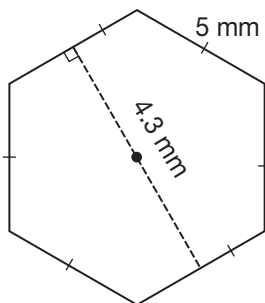
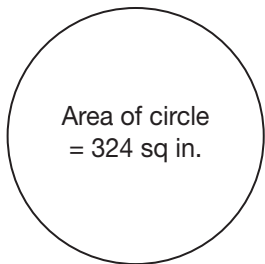
The radius is about 10.2 in.

4. Corbett is a diamond cutter. He cut a diamond so that the face is a regular hexagon. Is the area of the face about 1 cm²? Explain your thinking.

e.g., Area of regular hexagon:

$$6 \times \frac{1}{2}(0.5 \text{ cm} \times 0.215 \text{ cm}) \doteq 0.3 \text{ cm}^2$$

The face of the diamond is less than half a square centimetre.



5. On paper, draw a polygon that has an irregular shape. Explain how you can determine its area. (Don't do the calculations.)

1. Divide it into triangles.
2. Measure the base and height of each triangle and calculate Area of triangle = $\frac{1}{2}(\text{base} \times \text{height})$.
3. Add all the areas.

6. a) Rayza is building a deck. What is the area of the deck?

Area of trapezoid: $\frac{1}{2}(4 \text{ m} + 7 \text{ m}) \times 6 \text{ m} = 33 \text{ m}^2$

Area of rectangle: 36 m^2

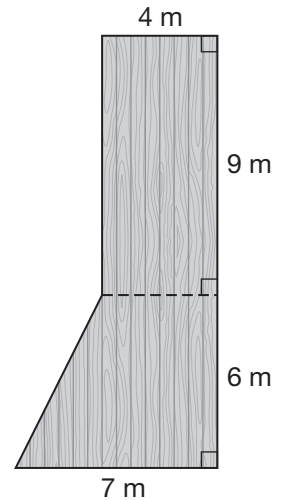
Total area is 69 m^2 .

b) Rayza wants to put one coat of stain on the deck. A can of stain covers about 15 m^2 and costs \$27.99. About how much will she pay for the cans of stain?

$69 \text{ m}^2 \div 15 \text{ m}^2/\text{can} = 4.6 \text{ cans}$

$5 \text{ cans} \times \$28 = \140

She will pay about \$140.

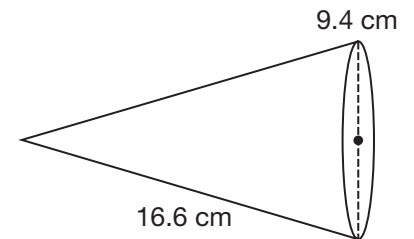


7. What is the surface area, to one decimal place?

a) an ice cream cone, top open

Surface area of open cone:

$\pi(4.7 \text{ cm})(16.6 \text{ cm}) \doteq 245.1 \text{ cm}^2$

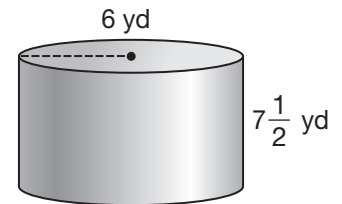


b) a gas storage tank, top closed

Circumference: $\pi(12 \text{ yd}) = 37.699\dots \text{ yd}$

Surface area: $2 \times \pi(6 \text{ yd})^2 + (7.5 \text{ yd} \times 37.699\dots \text{ yd})$

$\doteq 508.9 \text{ sq yd}$



8. The shaded area on the map shows the oil sands in Alberta. (1 square represents 2500 sq mi.)

Estimate the area of the oil sands.

e.g., about 50 000 sq mi

about 129 500 km²

