

**Math Essentials 10 Teacher Learning Centre
Answer Links**

<Section 9.1 Answers>

Answers to Activity Questions (pages 240–243)

Answers may vary depending on whether the pi button on a calculator or the 3.14 approximation for pi was used. Answers were calculated using the pi button.

1. a) 16 square units
b) The area of the circle is smaller because the circle fits inside the square.
c) 4, 8, 12 cm²
2. a) 7 square units b) about 3 square units
3. The first number is the calculator display to 10 digits.
a) 7.068 583 470, 7.07, 7
b) 3.141 592 654, 3.14, 3
4. a) 201.1 cm² b) 615.8 mm²
5. 1 m, 3.1 m²
6. a) 314 m² b) 79 L
7. a) 628.3 cm² b) 12.6 m²
8. a) 1.6 m² b) 7.1 cm²
c) 981.7 cm² d) 490.9 cm²
9. 15 708 m²

<Section 9.2 Answers>

Answers to Activity Questions (pages 244–249)

Answers to area and volume questions may vary slightly depending on whether students use the pi button on a calculator or the 3.14 approximation for pi. Answers were calculated using the pi button.

- rectangles
 - identical
 - parallel
 - circle ends
- $40 \text{ cm}^2 \times 10 \text{ cm} = 400 \text{ cm}^3$
 - $40 \text{ cm}^2 \times 10 \text{ cm} = 400 \text{ cm}^3$
 - 1800 cm^3
 - 3000 m^3
- $78.5 \text{ cm}^2, 1177.5 \text{ cm}^3$
 - $28.3 \text{ mm}^2, 226.4 \text{ mm}^3$
- Example:
First Can: 8.5 cm, 12.5 cm, 4.3 cm,
 $58.1 \text{ cm}^2, 726 \text{ cm}^3, 25 \text{ oz} = 750 \text{ mL}$
 - The volume on the label is likely to be a bit smaller than the volume calculated because the can may not be filled to capacity. The label on the can tells you the volume of the substance inside the can.
- 90 cm; $25\,446.0 \text{ cm}^2, 509 \text{ L}$
- 28.3 cm high
- 10, 10, 10 mm $\times 10 \text{ mm} \times 10 \text{ mm}$
 $= 1000 \text{ mm}^3, 1 \text{ cm}^3 = 1000 \text{ mm}^3$
- 0.5 cubic centimetres
- 7000 cubic centimetres
- 100, 100, 100 cm $\times 100 \text{ cm} \times 100 \text{ cm}$
 $= 1\,000\,000 \text{ cm}^3, 1 \text{ m}^3 = 1\,000\,000 \text{ cm}^3$
- $650\,000 \text{ cm}^3$
 - 0.017 m^3
- Area of pad $= \pi \times (8 \text{ m})^2 = 201.1 \text{ m}^2$
 - 100; 0.2; Volume of concrete needed
 $= 201.1 \text{ m}^2 \times 0.2 \text{ m} = 40.22 \text{ m}^3$

<Chapter 9 Review Answers>

Answers to Chapter 9 Review (pages 250–251)

Answers to area and volume questions may vary slightly depending on whether students use the pi button or the value of 3.14 for pi in their calculations. Answers were calculated using the pi button.

1. area
2. prism
3. cylinder
4. base
5. volume
6. a) 78.5 cm^2
b) 339.8 m^2
c) 33.2 mm^2
d) $15\,504.0 \text{ cm}^2$
7. a) Calculate the area by using the formula
$$A = \frac{1}{4} \times \pi r^2.$$

b) the radius
8. a) 226 cm^2
b) 13 m^2
9. 13 m^2 ; 113 m^2
10. a) 128 cm^3
b) 250 mm^3
c) 302 m^3
d) 1131 m^3
11. 1.57 m^3
12. 0.02 m^3