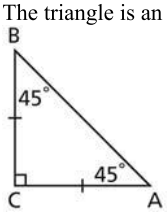
Chapter 2: Review, page 124

1. **a)** 35° **b)** 65°

2. **a)** $\tan 20° < 1$ **b)** $\tan 70° > 1$

3. 6°

4. The triangle is an isosceles right triangle.



5. **a)** **i)** 3.7 cm
ii) 3.0 cm
b) Could also use trigonometric ratios
i) Approximately 4.2 cm
ii) Approximately 4.0 cm

6. 327 m

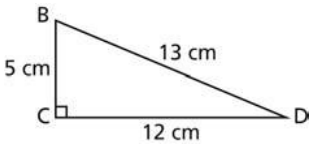
7. **a)** 11.7 cm **b)** 13.0 cm

8. 17.5 m

9. 30 m

11. **a)** 73°; cosine **b)** 28°; sine

12.



a) **i)** $\frac{5}{13}$ **ii)** $\frac{12}{13}$
iii) $\frac{5}{13}$ **iv)** $\frac{12}{13}$

b) $\sin D = \cos B$; $\sin B = \cos D$

13. 64.2°

14. 36.9°

15. **a)** 3.9 cm; cosine
b) 4.4 cm; sine
c) 4.7 cm; sine
d) 4.5 cm; cosine

16. 6.0 km

17. 1.6 cm by 2.8 cm

18. **a)** CE ≐ 5.0 cm, ∠E ≐ 57.3°, ∠C ≐ 32.7°
b) ∠H = 52°, GH ≐ 2.7 cm, FH ≐ 4.3 cm
c) ∠K = 63°, JM ≐ 3.9 cm, KM ≐ 2.0 cm

19. 85.9°

20. **a)** 35.5 cm; 52.1 cm^2
b) 13.0 cm; 10.2 cm^2

21. **a)** 3.2 m **b)** 8.2 m

22. **a)** 13.6 cm **b)** 11.3 cm
c) 21.0°

23. 2316 ft.

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1. B

2. C

4. ∠D = 27.0°, DE ≐ 6.9 cm, EF ≐ 3.5 cm

5. 203 cm

6. 75.5 m

Cumulative Review Chapters 1 and 2, page 130

1. **a)** 23 yd. 1 ft. **b)** $59.76

2. 276 km

4. Answers will vary depending on the conversion ratios used.
a) 823 cm **b)** 279 400 m
c) 3 mi. **d)** 5 ft. 3 in.

5. Answers will vary depending on the conversion ratio used. The road above The Narrows is higher by approximately 5 ft., or 1.5 m.

6. **a)** 342 m^2 **b)** 208 $ft.^2$

7. 192 $ft.^3$

8. Approximately 6 yd.

9. No

10. **a)** Hemisphere; 138 $in.^2$
b) Sphere; 3824 $in.^3$

11. 191 m^2, 170 m^3

12. 4478 $in.^2$

13. 222.1 mm^2, 239.6 mm^3

14. **a)** 31.0° **b)** 62.5°

15. 26 yd.

16. 201 ft.

17. **a)** 61.9° **b)** 68.4°

18. 22°

19. 50 ft. by 94 ft.

20. **a)** ∠S = 24.0°, RT ≐ 6.4 m, RS ≐ 14.4 m
b) ∠M = 46.0°, MN ≐ 7.1 cm, MP ≐ 10.3 cm

21. 59°

22. $x = 20.0$ cm; $y \doteq 40.0$ cm;
∠PRQ = 46.4°; ∠PRS = 133.6°;
∠PSR = 31.7°; ∠QPR = 43.6°;
∠QPS = 58.3°; ∠QRS = 180.0°;
∠RPS = 14.7°