

Student Text *UNIT 35 Trigonometric Problems*Answers

35.1 Mixed Problems Using Trigonometry

1. 8.82 m
2. 12.50 m
3. 7.13°
4. 1.03°
5. (a) 381.6 m (b) 1.91°
6. 7.85 m
7. 7.20 m
8. (a) 8.76 m (b) 6.02 m (c) 6.56 m (d) 5.09 m
9. (a) 57.15 m (b) 12.02 m
10. 23.58° ; 938.6 m
11. (a) 8.96 m (b) 38.5° (c) 6.72 m
12. (a) (i) 373.4 m (ii) 20.4° (b) 149.8 m

35.2 Sine and Cosine Rules

1. (a) 51.6° (b) 52.3° (c) 48.8° (d) 69.4° (e) 34.2° (f) 56.0°
 2. (a) 5.43 (b) 9.05 (c) 6.01 (d) 30.13 (e) 9.84 (f) 4.77
 3. (a) $A = 52.8^\circ$ $B = 42.2^\circ$ $a = 3.68$
 (b) $A = 19.9^\circ$ $B = 50.1^\circ$ $b = 12.16$
 (c) $B = 73^\circ$ $b = 4.45$ $c = 3.56$
 (d) $A = 44.2^\circ$ $B = 56.8^\circ$ $a = 4.33 \text{ cm}$
 4. (a) Yes (b) No, only one (c) No, impossible even for one (d) Yes
 5. $B = 65.6^\circ$, $C = 47.4^\circ$, $b = 123.6$
 6. $A = 34.1^\circ$, $C = 64.9^\circ$, $a = 6.82$
 7. (a) $B = 52.4^\circ$, $C = 67.6^\circ$, $a = 3.28$ (b) $B = 25.1^\circ$, $C = 4.9^\circ$, $a = 17.66$
 (c) $A = 45.5^\circ$, $B = 106.6^\circ$, $C = 27.9^\circ$
 (d) $A = 120.5^\circ$, $B = 36.9^\circ$, $C = 22.6^\circ$
 (e) $b = 8.41$, $A = 64.92^\circ$, $C = 60.08^\circ$
 (f) $c = 9.81$, $A = 28.45^\circ$, $B = 21.55^\circ$
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35.2

- 8. (a) 263.7 m (b) 192.9 m
- 9. 2.65 miles
- 10. (a) 117.3° (b) 10.2 m
- 11. 60.02°
- 12. (a) 23.35 cm (b) 62.68°
- 13. 286.6°
- 14. 45.58°
- 15. 26.8 m

35.3 Application: Area of Any Triangle

- 1. (a) 4.38 cm^2 (b) 5.27 cm^2
- 2. (a) 24.13 cm^2 (b) 4.47 cm^2
- 3. (a) 12.5 cm^2 (b) 94.5 cm^2
- 4. (a) 7.11 cm (b) 17.73 cm^2
- 5. (a) 53° (b) 54 cm^2
- 6. (a) 9.17 m (b) 32.4° (c) 34.64 m^2