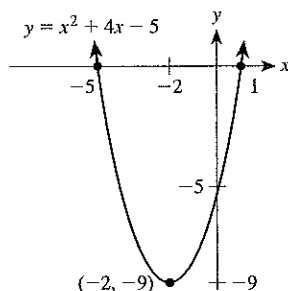


8. $37 - 20\sqrt{3}$ (§10.4)
9. $10t - 18\sqrt{3}t - 12$ (§10.4)
10. 9 (§10.4)
11. $x = 6$ or $x = -4$ (§11.1)
12. $x = 2 \pm \sqrt{7}$ (§11.2)
13. $x = \frac{20}{3}$ (§11.1)
14. $x = 7$ (§10.5)
15. $x = \frac{5 \pm \sqrt{17}}{4}$ (§11.4)
16. $t = \pm \frac{\sqrt{30}}{3}$ (§11.2)
17. $x = -\frac{25}{32}$ (§11.1)
18. $x = 5 \pm 2\sqrt{7}$ (§11.3)
19. $25\sqrt{3}$ sq in. (§11.6)
20. Let r = rate of the slower truck,
 $r + 10$ = rate of the faster truck;
 $\frac{400}{r} = \frac{400}{r+10} + 2$;

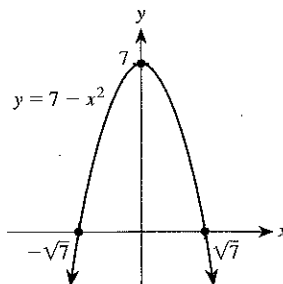
40 mph and 50 mph

 (§11.6)

21. (§11.7)



22. (§11.7)



Exercise G.1

1. $\angle DEB$ and $\angle BEA$; $\angle EAD$ and $\angle DAB$
3. (a) 60° (b) 30° (c) 45°
(d) 72° (e) 1°
5. 128° 7. 64° 9. $x = 20$
11. $x = 4$
13. $\angle 1 = 145^\circ$, $\angle 2 = 35^\circ$, $\angle 3 = 145^\circ$
15. $\angle 1 = 65^\circ$, $\angle 2 = 115^\circ$, $\angle 3 = 65^\circ$
17. $\angle 1 = \angle 3 = \angle 6 = \angle 8 = 55^\circ$;
 $\angle 2 = \angle 5 = \angle 7 = 125^\circ$
19. $x = 56$
21. $\angle 1 = \angle 4 = \angle 5 = \angle 7 = \angle 9$
 $= \angle 11 = \angle 14 = \angle 16 = 140^\circ$;

- $$\angle 3 = \angle 6 = \angle 8 = \angle 10 = \angle 12 =$$
- $$\angle 13 = \angle 15 = 40^\circ$$
23. $\angle 1 = 50^\circ$; $\angle 2 = 130^\circ$;
 $\angle 3 = 50^\circ$; $\angle 4 = 130^\circ$

Exercises G.2

1. 123° 3. $70^\circ, 70^\circ$ 5. $x = 28$
7. $x = 28$ 9. $x = 67$ 11. $x = 26$
13. $|\overline{AB}| = 5$ 15. $|\overline{AC}| = \sqrt{65}$
17. $|\overline{AC}| = |\overline{BC}| = 4\sqrt{2}$
19. $|\overline{AC}| = 4\sqrt{5}$
21. $20\sqrt{2} \approx 28.28$ feet
23. 240.8 miles
25. 113.2 nautical miles
27. No 29. $x = 27$ 31. $x = 115$
33. $x = 70$ 35. $x = 40$

Exercises G.3

1. SSS 3. ASA 5. ASA 7. SAS
9. SAS 11. SAS 13. ASA

Exercises G.4

1. The corresponding pairs of angles are A and D , B and E , C and F
3. The corresponding pairs of angles are A and EDB , ACB and DEB , ABC and DBE
5. The corresponding pairs of angles are A and D , B and E , C and F
7. $|\overline{DE}| = 24$, $|\overline{EF}| = 12$
9. $|\overline{DE}| = 7.5$, $|\overline{DF}| = 12.5$
11. $|\overline{AC}| = 20$ 13. $|\overline{EA}| = 10.8$
15. $|\overline{DE}| = 12$
17. $|\overline{AB}| = \sqrt{61}$, $|\overline{CD}| = 8\frac{1}{3}$,
 $|\overline{DE}| = \frac{5\sqrt{61}}{3}$
19. 27 ft 21. 10.2 cm 23. 2.9 ft
25. 0.3 cm; 0.1 cm
27. $|\overline{AC}| = 6$, $|\overline{BC}| = 6\sqrt{2}$
29. $|\overline{AB}| = 12\sqrt{3}$, $|\overline{BC}| = 24$
31. $|\overline{AB}| = |\overline{BC}| = \frac{20}{\sqrt{2}} = 10\sqrt{2}$
33. $|\overline{AB}| = 4\sqrt{3}$; $|\overline{BC}| = 8\sqrt{3}$

Exercises G.5

1. 80°
3. $B = 120^\circ$, $C = 60^\circ$, $D = 120^\circ$
5. $x = 5$ 7. $x = 18$
9. $\sqrt{89}$ cm 11. $4\sqrt{2}$ in.
13. $\frac{5\sqrt{2}}{2}$ cm 21. $\sqrt{117} = 3\sqrt{13}$

23. $x = 5$ 25. $x = \sqrt{89}$
27. $x = \sqrt{85}$ 29. $x = \sqrt{37}$

Exercises G.6

1. $P = 26$ ft, $A = 40$ sq ft
3. $P = 36$ in., $A = 72$ sq in.
5. $P = 12$ in., $A = 9$ sq in.
7. $A = 48$ 9. $A = 60$
11. $A = 24$ 13. $A = 24$
15. $A = 12$ 17. $A = 51$
19. $P = 56$, $A = 180$
21. $P = 13 + \sqrt{89}$, $A = 20$
23. $P = 16 + 4\sqrt{2}$, $A = 14\sqrt{2}$
25. $P = 16 + 8\sqrt{5}$ cm,
 $A = 32\sqrt{5}$ sq cm
27. $P = 20\sqrt{2}$ mm, $A = 50$ sq mm
29. $P = 22$, $A = 26$
31. $P = 56$, $A = 108$
33. $A = 54\sqrt{2} - 18$ 35. $A = 37$
37. $A = 132$ 39. $A = 30$
41. $P = 147$ in.; $A = 945$ sq in.
43. $P = 128$ in.; $A = 5120$ sq in.
45. 1050 sq ft

Exercises G.7

1. 35° 3. 130° 5. 6π in.
7. 8π ft 9. $\frac{3\pi}{2}$ in.
11. $P = \frac{13\pi}{6} + 12$; $A = \frac{13\pi}{2}$
13. $P = \frac{5\pi}{18} + 10$; $A = \frac{25\pi}{36}$
15. 9π sq in. 17. 36π sq in.
19. $P = 20 + 10\pi$ in.,
 $A = 50\pi$ sq in.
21. $\frac{50\pi}{9}$ sq in.
23. $P = 22 + 3\pi$, $A = 48 + \frac{9\pi}{2}$
25. $64 - 16\pi$ cm 27. 80π
29. $14 + 5\pi$
31. $P = 70 + 5\pi$ cm;
 $A = 300 + 12.5\pi$ sq cm
33. One 12-in. pie; they are both the same value.

Exercises G.8

1. $A = 396$ cm²; $V = 504$ cm³
3. $A = 40\pi$ ft²; $V = 32\pi$ ft³
5. $A = 24\pi$ m²; $V = 12\pi$ m³
7. $A = 275.6\pi$ ft²; $V = 762.4\pi$ ft³
9. $A = 113.1$ ft²; $V = 113.1$ ft³
11. $A = 226.2$ cm²; $V = 251.3$ cm³
13. $A = 134.6$ m²; $V = 64.8$ m³
15. $A = 502.7$ ft²; $V = 599.5$ ft³
17. $A = 4,712.4$ mm²;
 $V = 29,452.4$ mm³