

39. The speed of the current is 5 mph. 40. The dimensions are 36 ft by 18 ft. 41. The dimensions are 11 ft by 13 ft.  
 42. The dimensions are 18 cm by 17 cm. 43. The dimensions are 5 m by 8 m. 44. The radius is 25 ft.  
 45. (a) The ball strikes the ground after 6 sec. (b) The ball passes the top of the building on its way down after 5 sec.  
 46. (a) The object will be 15 m above the ground at about 0.99 sec and 3.09 sec. (b) The object will strike the ground at about 4.08 sec.  
 (c) No (d) The maximum height is about 20.41 m. 47. (a) The dimensions are 10 ft by 5 ft. (b) The area is 50 sq ft.  
 (c) The dimensions would be 7.5 ft by 7.5 ft. (d) The area would be 56.25 sq ft. 48. (a) Its dimensions are 19 ft by 19 ft.  
 (b) Its dimensions are 28.5 ft by 9.5 ft. (c) The diameter is approximately 25.83 ft. (d) The circular one has the most area.  
 49. The border will be 2.71 ft wide. 50. The border will be about 2.13 ft wide. 51. The border will be 2.56 ft wide. 52. Its radius is 3 in.  
 53. Add  $\frac{2}{3}$  gal of water. 54. 5 L should be drained. 55. Evaporate 10.67 oz of water. 56. Evaporate 96 gallons of water.  
 57. 40 g of 12 karat gold should be mixed with 20 g of pure gold. 58. There are 11 atoms of oxygen and 22 atoms of hydrogen.  
 59. Mike passes Dan  $\frac{1}{3}$  mi from the start, 2 min from the time Mike started to race. 60. It can fly 742.5 mi. 61. Start the auxiliary pump  
 at 9:45 AM. 62. 5 lb of pure cement must be added. 63. The tub will fill in 1 hr. 64. It will take 1 hr and 45 min more for the 5 hp pump to  
 empty the pool. 65. Lewis would beat Burke by 16.75 m. 66. The defensive back catches up to the tight end at the tight end's 45 yd line.  
 67. There should be allowed 20,000 mi as a business expense. 68. 36 69. 13 sides; No 70. 5 71. The average speed is 49.5 mph.  
 72. The tail wind was 91.47 knots. 73. Set the original price at \$40. At 50% off, there will be no profit.

### A.8 Assess Your Understanding (page 1028)

3. negative 4. closed interval 5. multiplication properties 6. T 7. T 8. T 9. F 10. T 11.  $[0, 2]; 0 \leq x \leq 2$  12.  $[2, \infty); x \geq 2$   
 13.  $(-1, 2); -1 < x < 2$  14.  $(-\infty, 0]; x \leq 0$  15.  $[0, 3); 0 \leq x < 3$  16.  $(-1, 1]; -1 < x \leq 1$  17. (a)  $6 < 8$  (b)  $-2 < 0$  (c)  $9 < 15$   
 (d)  $-6 > -10$  18. (a)  $5 > 4$  (b)  $-3 > -4$  (c)  $6 > 3$  (d)  $-4 < -2$  19. (a)  $7 > 0$  (b)  $-1 > -8$  (c)  $12 > -9$  (d)  $-8 < 6$   
 20. (a)  $0 > -2$  (b)  $-8 > -10$  (c)  $-9 > -15$  (d)  $6 < 10$  21. (a)  $2x + 4 < 5$  (b)  $2x - 4 < -3$  (c)  $6x + 3 < 6$   
 (d)  $-4x - 2 > -4$  22. (a)  $4 - 2x > 8$  (b)  $-4 - 2x > 0$  (c)  $3 - 6x > 15$  (d)  $-2 + 4x < -10$

