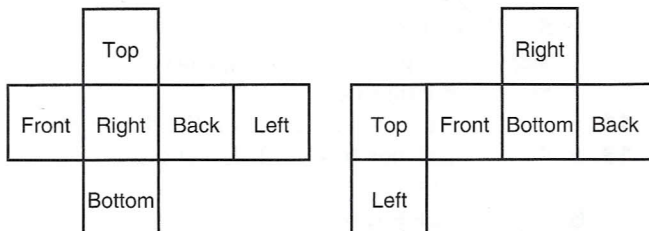# Answers to Odd-Numbered Exercises and Problems and Chapter Tests

Exercises and Problems 1.1

1. a. 4 feet; 2 feet
   b. 6 feet
   c. On day 9
   d. If the snail climbs 4 feet during the day and slips back 3 feet at night, it will take 17 days for it to climb out of the well.
3. 52 and 78 feet
5. a. The old plan   **b.** 58¢
   c. 15 checks   **d.** The difference decreases. 19 checks
7. Six postcards
9. a. One possibility is 46 and 64.
   b. For 64 and 46, the difference is 18.
   c. 82 and 28
   d. 93 and 39
11. a. Dumping 9 gallons into the 4-gallon container twice leaves 1 gallon in the 9-gallon container.
   b. (1) Dump the 1 gallon from part a into the 4-gallon container.
      (2) Fill the 9-gallon container and dump part of it into the 4-gallon container until the 4-gallon container is full.
      (3) There will be 6 gallons left in the 9-gallon container.
13. a. The yellow tiles are touching at the corners.
   b. Each of the other eight tiles touches the center tile at one or more points.
   c. If only one new color is used for the remaining four tiles, then tiles of the same color will meet at their corners.
   d. Yes, it can be done in two colors, with one color along the two diagonals.

15.

	Top		
Front	Right	Back	Left
	Bottom		

		Right	
Top	Front	Bottom	Back
	Left		

17. a. Girl A will have 20 chips, girl B will have 60 chips, and girl C will have 40 chips.
   b, c.

	A	B	C
Beginning	65	35	20
End of first round	10	70	40
End of second round	20	20	80
End of third round	40	40	40

   d. No, she would not have enough chips to double the other girls' supplies.
19. 35 tiles
21. The total of 7 squares has a value of 112, so each square has a value of 16. Thus, the numbers are 16, 32, and 64.
23. In the third row, a cup replaces the doughnut above it and the cost increases from 90¢ to $1. So a cup of coffee costs 10¢ more than a doughnut. Thus, replacing the cup in the second row by the doughnut in the first row decreases the cost by 10¢, so that 4 doughnuts cost 80¢. Therefore, 1 doughnut costs 20¢, and a cup of coffee costs 30¢.
25. 6 ships with 4 masts
27. 14 free movie videos
29. The 90- and 110-pound people cross the river, and the 110-pound person returns. Then the 190-pound person crosses the river, and the 90-pound person returns. This requires 4 crossings of the boat. Similarly, another 4 crossings will get the 170-pound person across the river and leave the 110- and 90-pound people left to cross the river in the ninth crossing of the boat. A minimum of 9 crossings is required for the boat.
31. 2 is on back of disk 6; 5 is on back of disk 7; 9 is on back of disk 8.
33. One way: Start both timers at the same time; put the vegetables in the water when the 7-minute timer finishes; turn the 11-minute timer over when it finishes; vegetables will be steamed in 15 minutes, when the 11-minute timer finishes.