Answers for Lesson 11-1, pp. 514–516 Exercises
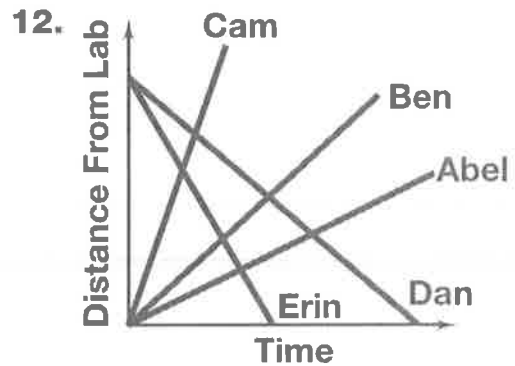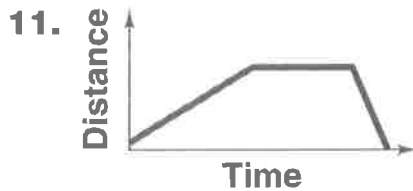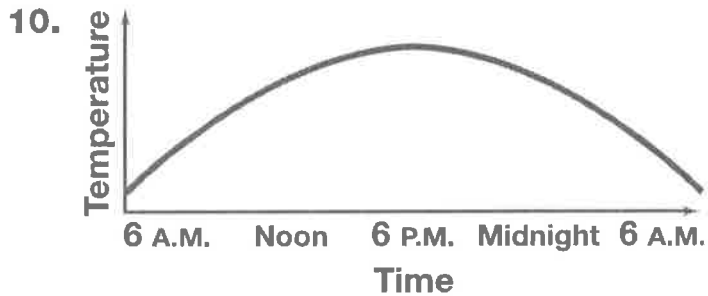
1. A common ratio involves mult. or div. A common difference involves add. or subtr.

2. 2

3. −1

4. Answers may vary. Sample: 1, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, . . .

5. 2

6. 3

7. 2, 8, 32

8. 19.5, 23.5, 27.5

9. $-\frac{1}{4}$, $-1\frac{1}{4}$, $-2\frac{1}{4}$

10. 32, 39, 46

11. 7, 9, 11, 13

12. 0, −2, −4, −6

13. −7, −14, −21, −28

14. 11, 16, 21, 26

15. $3n$; 60

16. $\frac{1}{2}n$; 10

17. $-4n$; −80

18. Start with 750 and multiply by 0.1 repeatedly; 0.075, 0.0075, 0.00075.

19. Start with 1 and multiply by 4 repeatedly; 256; 1,024; 4,096.

20. Start with 1 and multiply by $\frac{1}{2}$ repeatedly; $\frac{1}{16}$, $\frac{1}{32}$, $\frac{1}{64}$.

21. Start with 3 and multiply by 2 repeatedly; 48, 96, 192.

22. Start with 0.12 and multiply by 3 repeatedly; 3.24, 9.72, 29.16.

23. Start with 125 and multiply by $\frac{1}{5}$ repeatedly; $\frac{1}{5}$, $\frac{1}{25}$, $\frac{1}{125}$.

24. Answers may vary. Sample: $3n + 2$

25. arithmetic

26. neither

27. Yes, if the sequence has enough terms; if you start with any number and repeatedly add a negative number, you eventually will end up with a negative answer.

28. arithmetic; 3.2, 3.5, 3.8

29. neither; 26, 37, 50

30. arithmetic; −3, −9, −15

31. geometric; 162, 486, 1,458

32. neither; 1.0001, 1.00001, 1.000001

33. geometric; 0.125, 0.0625, 0.03125

34. 4 ft 3 in. or 51 in.   **35.** 12 days

36. Arithmetic; start with 72 in. and add −3 repeatedly.

37. Answers may vary. Sample: $15.5 - 3n$; -44.5

38. Answers may vary. Sample: $3 + 4n$; 83

39. a. 8; 27; 64; 125

   b. Volume is the length of the side cubed.

   c. n^3, where n is the length of the side

40. 400, 200, 100, 50; geometric

41. C   **42.** H   **43.** B   **44.** $\frac{35}{171}$

45. $\frac{10}{171}$ **46.** $\frac{1}{171}$ **47.** $\frac{7}{171}$

Answers for Lesson 11-2, pp. 519–521   Exercises

1. Line graphs best display changes over time.

2. time; distance

3. when the bus stops

4. when the bus is farthest from the transit center

5. Highway; the bus travels a greater distance over a shorter period of time on the highway.

6. 11 weeks

7. 10 weeks

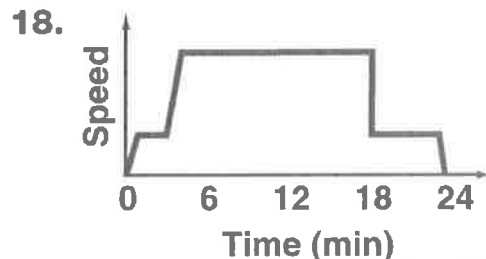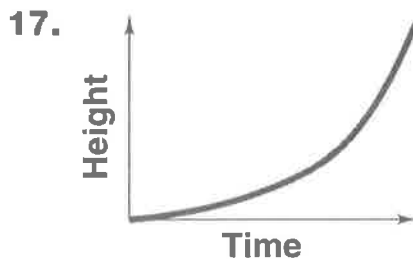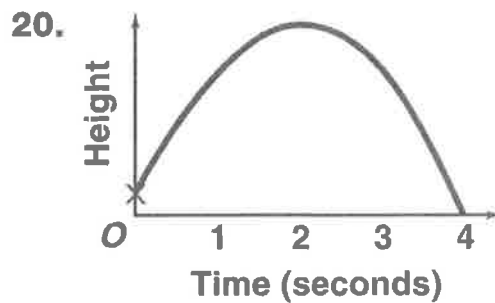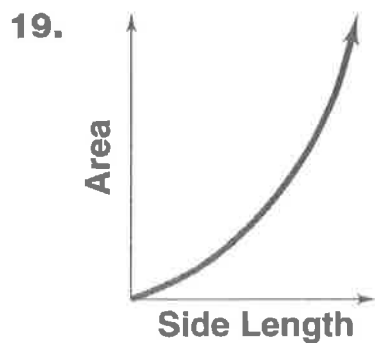8. fourth and fifth weeks

9. −10 km

10.

11.

12.

13. Al

14. Al

15. Carlos

16. Al ran the same distance in a shorter period of time. Al won.

17.

18.

Answers for Lesson 11-2, pp. 519–521   Exercises (cont.)

19.

Area vs. Side Length

20.

Height vs. Time (seconds)

21. B   **22. F**   **23. D**   **24. 84**

25. 21   **26. 10**   **27. 35**