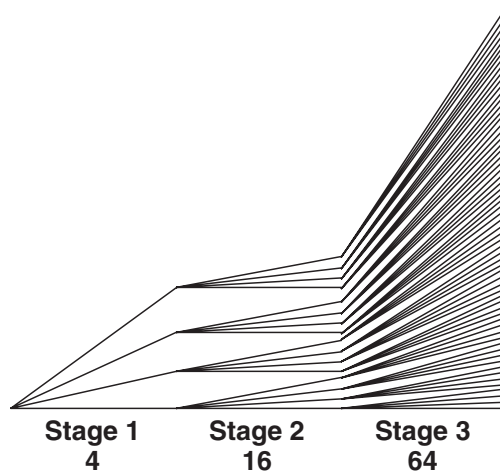


Answers for Lesson 11-5 Exercises

1. 255
2. 1456
3. 381
4. 3647
5. $-10,235$
6. $-\frac{1111}{6}$
7. $\frac{255}{256}$
8. -1640
9. converges; has a sum
10. converges; has a sum
11. converges; has a sum
12. diverges; no sum
13. diverges; no sum
14. converges; has a sum
15. diverges; no sum
16. converges; has a sum
17. diverges; no sum
18. $1.\bar{2}$
19. 1
20. $\frac{5}{6}$
21. $\frac{9}{2}$
22. 9
23. $\frac{9}{5}$
24. geometric; 2046
25. arithmetic; 420
26. geometric; $-1,627,605$
27. geometric; ≈ 96.47
28. arithmetic; 500,500
29. geometric; ≈ 121.5
30. a.



4, 16, 64

b. $4 + 16 + 64 + 256 + 1024 + 4096$

c. 5460

Answers for Lesson 11-5 Exercises (cont.)

31. a. 20, 18, 16.2, 14.58

b. ≈ 198.59

c. $S = \frac{20}{1 - 0.9} = 200$

d. Check students' work.

32. $\frac{5}{4}$

33. 4

34. $\frac{3}{4}$

35. no sum

36. $0.8\bar{3}$

37. no sum

38. a. 2

b. $25 + 20 + 16 + 12.8 + 10.24 + \dots$

c. $20 + 16 + 12.8 + 10.24 + \dots$

d. 225 cm

39. Check students' work.

40. a. No; the sum of a series of positive numbers will be positive.

b. Your classmate did not check to see if $|r|$ was less than 1.

41. $\frac{7}{8}$

42. 10

43. (b); (a) yields \$26,000; using the formula for finding the sum of a finite geometric series, (b) yields \$1,342,177.26.

44. a. Answers may vary. Sample: The student used $r - 1$ instead of $1 - r$ in the formula for the sum of an infinite geometric series.

b. $\frac{1}{2}$

45. converges; 1

46. diverges

47. converges; ≈ 2.718

48. a. 70th swing

b. 10,000 cm

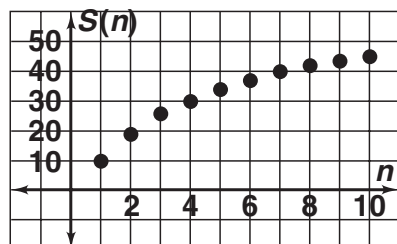
Answers for Lesson 11-5 Exercises (cont.)

49. a. $S = \frac{0.142857}{1 - 0.000001} = \frac{0.142857}{0.999999} = \frac{1}{7}$

b. $\frac{3}{7}$

50. a. all integers greater than or equal to 1

b. 10; 18; 24.4; 29.52; 33.62; 36.89; 39.51; 41.61; 43.29; 44.63;



c. 50