Lesson 5.2.1

5-44. See below:

  a. $m = 3$

  b. $m = 6$

  c. $m = -5$

  d. $m = 1.5$

5-45. See below:

  a. -3

  b. $y = -3x - 5$

5-46. 43 ounces

5-47. See below:

  a. 15 cm

  b. $15\sqrt{2} \approx 21.21$ cm

5-48. See graph below:

  a. One possible answer is that their growth grows linearly.

  b. Answers vary. Sample: The sequence of differences between terms turns out to be almost the same as the sequence itself.

5-49. See below:

  a. Exponential, because the ratio of one rebound to the next is roughly constant ≈ 0.6

  b. Roughly geometric, because it has a multiplier (though students may say it is neither because the multiplier is not exact).

5-50. See below:

  a. 1

  b. 5

  c. $\sqrt{10} \approx 3.16$

  d. undefined

  e. $x = \frac{38}{3} = 12\frac{2}{3}$

5-51. See below:

  a. $1.03y$

  b. $0.8z$

  c. $1.002x$

5-52. See below:

  a. 500 liters

  b. 31.25 liters

5-53. See below:

    a. $(-1, -7)$

    b. $(\frac{1}{2}, 2)$

5-54. $y = -10x + 170$

5-55. See below:

    a. 4^7

    b. 1

    c. $x^{-2} = \frac{1}{x^2}$

    d. $\frac{y^6}{x^3}$

    e. 1.28×10^4

    f. 8×10^{-3}