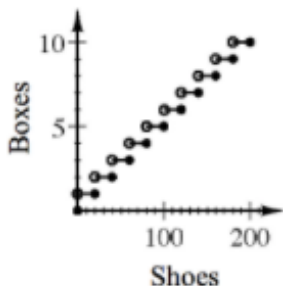


Lesson 7.1.4

7-47.



7-48. See below:

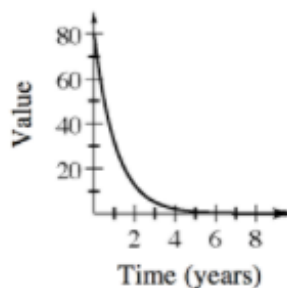
a. 0.40

b. \$32, \$2.05

c.  $V(t) = 80(0.4)^t$

d. According to this model, it never will; but in reality, a DVD would have no value if it breaks or if there is no longer a mechanism to play it.

e. See graph at right.



7-49. See below:



a. Let  $y =$  youngest child,  $y + (y + 5) + 2y = 57$ ; The children are 13, 18 and 26 years

b. Let  $x =$  months,  $y =$  insects,  $y = 2x + 105$ ,  $y = 175 - 3x$ ; 14 months

c. Let  $x =$  amount paid,  $\frac{8}{5} = \frac{x}{3}$ ; \$4.80

d. Let  $a =$  # adult tickets,  $s =$  # student tickets,  $3s + 5a = 1770$ ,  $s = a + 30$ ; 210 adult and 240 student

7-50. See below:

a.  $x^2 - 6x + 9$

b.  $4m^2 + 4m + 1$

c.  $x^3 - 2x^2 - 3x$

d.  $2y^3 - y^2 + 14y - 7$

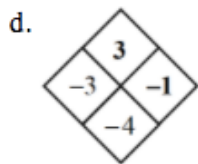
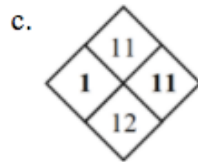
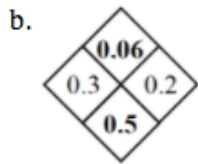
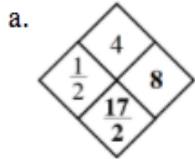
Lesson 7.1.4

7-51. See below:

a.  $3y + 5 = 14, y = 3$

b.  $3y + 5 = 32, y = 9$

7-52. See answers in bold in the diamond below:



7-53. See below:

a.  $-3$

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

7-54.  $0.8\%$ ;  $y = 500(1.008)^m$

7-55. See below:

a.  $(-8, 2)$

b.  $(\frac{5}{3}, -1)$

## Lesson 7.1.4

7-58. See below:

- a. Sometimes true (when  $x = 0$ )
- b. Always true
- c. Sometimes true (for all values of  $x$  and for all  $y$  except  $y = 0$ )
- d. Never true