# Answers

6. $y = 0.55x + 0.82$; $r = 0.99$; strong positive correlation

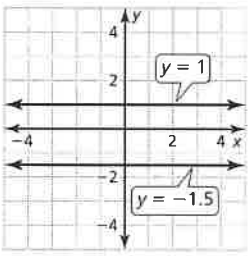
### 1.3 Review & Refresh

1. infinitely many solutions; Explanations will vary.

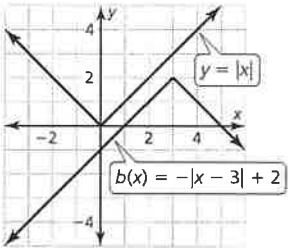
2. $y > -3x + 1$
   $y \leq 2x - 4$

3. $x = \frac{1}{3}w - 2y + 3$

4. 36%

5. 

   The graph of $f$ is a translation 2.5 units down of the parent constant function.

6. 

   The graph of $b$ is a reflection in the $x$-axis followed by a translation 3 units right and 2 units up of the parent linear function.

7. $7x^2 - 5x + 9$

8. $-2n^3 - 4n^2 - 14n + 1$

9. Company A; 7 mo

10. $g(x) = -\frac{5}{3}|x - 1|$

### 1.4 Extra Practice

1. $(2, 3, -1)$

2. no solution

3. $(-2, -3, 4)$

4. $(x, -x + 4, 0)$

5. $(1, 0, -7)$

6. $(4, -0.5, 3)$

7. 12 nickels, 10 dimes, and 20 quarters

8. $m\angle A = 90°$, $m\angle B = 30°$, $m\angle C = 60°$

9. $a = -2$, $b = -2$, $c = 15$; These values are the only ones which can satisfy the linear system at $(3, -2, 1)$.

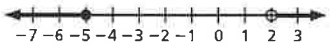
10. $(-1)x + 2y + (-3)z = -11$ or $(-1)x + (-3)y + 2z = -11$; The solutions are $(-2, 1, 5)$ and $(-25, 16, 6)$, respectively.

### 1.4 Review & Refresh

1. $g(x) = |x - 4| - 7$

2. $g(x) = \frac{1}{7}|x| - 1$

3. $4m^2 - 36m + 81$

4. $h < -5$ *or* $h > 2$
   


5. linear; \$180

6. $y = -0.3x + 18$; Your car loan decreases \$300 per payment.

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

8. $\frac{25}{z^8}$

9. 138

10. no solution

### Chapter 1 Test Prep

1. C

2. B

3. $y = 5x + 20$

4. $n = -3$

5. $\frac{1}{5}$

6. B

7. C

8. A, D, E

9. B

10. 175 miles

11. C

12. A

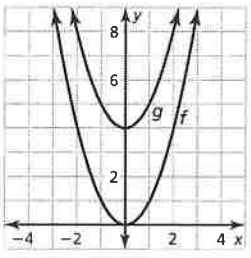
13. B, D

14. $y = 144$

15. C

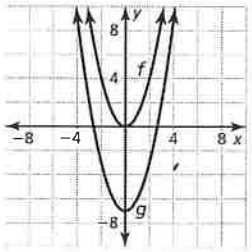
## Chapter 2

### 2.1 Extra Practice

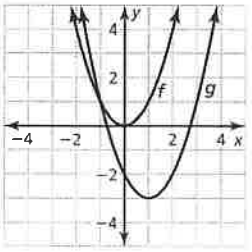
1. The graph of $g$ is a translation 4 units up of the graph of $f$.
   

# Answers

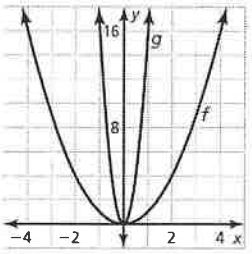
**2.** The graph of $g$ is a translation 7 units down of the graph of $f$.



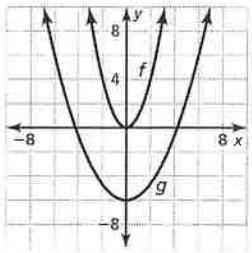

**3.** The graph of $g$ is a translation 1 unit right and 3 units down of the graph of $f$.



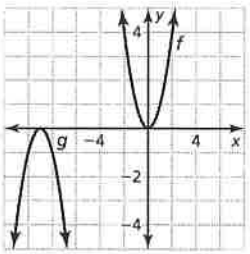

**4.** The graph of $g$ is a reflection in the $y$-axis followed by a horizontal shrink by a factor of $\frac{1}{4}$ of the graph of $f$.




**5.** The graph of $g$ is a vertical shrink by a factor of $\frac{1}{3}$ followed by a translation 6 units down of the graph of $f$.




**6.** The graph of $g$ is a reflection in the $x$-axis followed by a translation 9 units left of the graph of $f$.




**7.** $g(x) = -5x^2 - 3$; $(0, -3)$

**8.** $g(x) = \frac{1}{2}(x + 4)^2$; $(-4, 0)$

**9.** $g(x) = 9\left(\frac{1}{3}x\right)^2 + 1$; $(0, 1)$

**10.** $g(x) = -(4x - 12)^2 + 7$; $(3, 7)$

**11.** *Sample answer:* A translation 2 units left followed by a reflection in the $y$-axis of the graph of $f$.

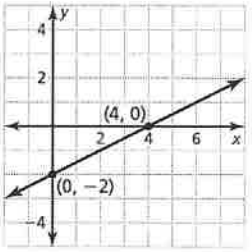
### 2.1 Review & Refresh

**1.** $(5, 0, -2)$

**2.** $g(x) = 2(x - 1)^2 + 1$; $(1, 1)$

**3.** $4x^2(x + 7)$

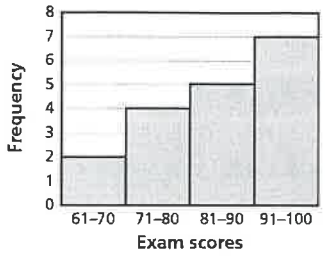
**4.**




**5.** The slope is negative.

**6.** The graph of $g$ is a reflection in the $x$-axis followed by a translation 2 units left of the graph of $f$.

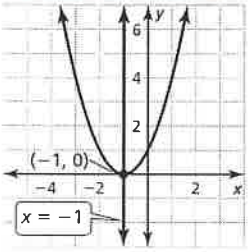
# Answers

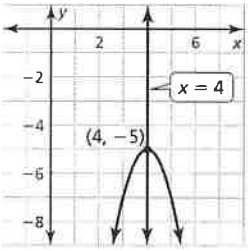
7. 

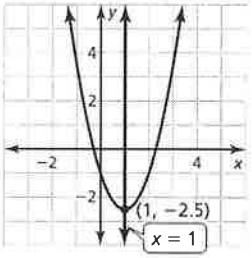

skewed left

8. $31.50

## 2.2 Extra Practice

1. 

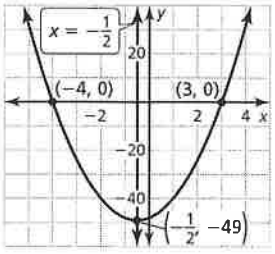

2. 

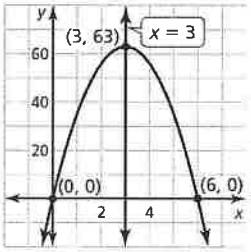

3. 


4. The maximum value is 7. The domain is all real numbers and the range is $y \leq 7$. The function is increasing to the left of $x = 1$ and decreasing to the right of $x = 1$.

5. The minimum value is $-20$. The domain is all real numbers and the range is $y \geq -20$. The function is decreasing to the left of $x = -2$ and increasing to the right of $x = -2$.

6. The minimum value is $-5$. The domain is all real numbers and the range is $y \geq -5$. The function is decreasing to the left of $x = 4$ and increasing to the right of $x = 4$.

7. 


8. 


9. second dolphin; second dolphin; Its vertex is higher than the first dolphin, which means it jumped higher. Its $x$-intercept is 1.75, which means it was in the air for 1.75 seconds, which is longer than the 1.5 seconds the first dolphin was in the air.

10. $\frac{k^2}{4}$ m$^2$

## 2.2 Review & Refresh

1. no real solution

2. $x = 6$

3. $x = -63$

4. The graph is a vertical shrink by a factor of $\frac{1}{2}$ followed by a translation 1 unit down of the parent quadratic function.

5. yes; *Sample answer:* $y = 1.4x + 6$; about 20 cm

6. $x = -20, x = -2$

7.