Answers

2.1 Puzzle Time

IT WOODEN GO

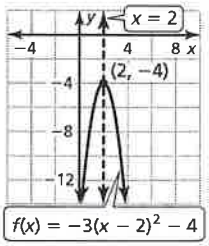
2.2 Cumulative Practice

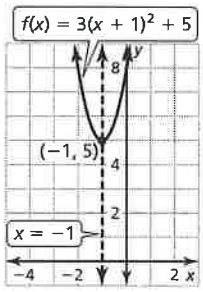
1. $2x(x^2 + 5x - 4)$
2. $4x^2(x + 4)(x - 4)$

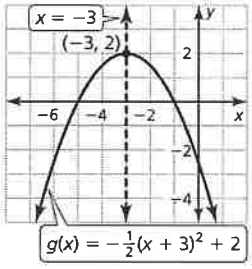
2.2 Prerequisite Skills Practice

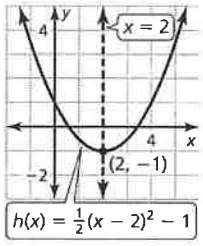
1. $P'(-5, -15)$
2. $P'(3, 3)$

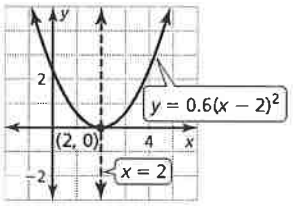
2.2 Extra Practice

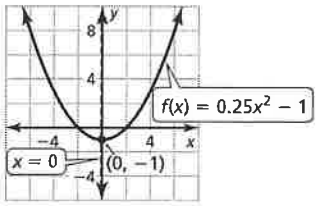
1. 

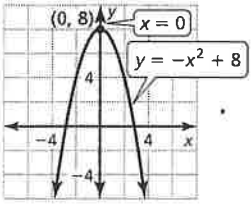
2. 

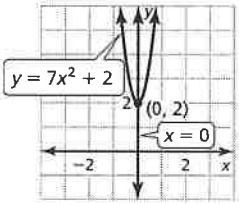
3. 

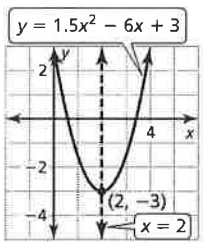
4. 

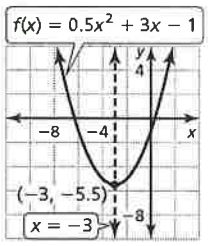
5. 

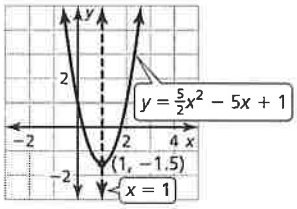
6. 

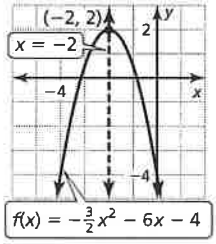
7. 

8. 

9. 

10. 

11. 

12. 

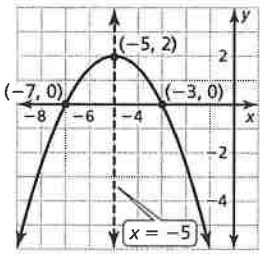
13. minimum: 12; domain: all real numbers, range: $y \geq 12$; increasing to the right of $x = 0$; decreasing to the left of $x = 0$

14. maximum: 9; domain: all real numbers, range: $y \leq 9$; increasing to the left of $x = -3$; decreasing to the right of $x = -3$

15. maximum: 6; domain: all real numbers, range: $y \leq 6$; increasing to the left of $x = -3$; decreasing to the right of $x = -3$

16. minimum: 2.5; domain: all real numbers, range: $y \geq 2.5$; increasing to the right of $x = -3$; decreasing to the left of $x = -3$

17. lowest; The y-values on either side of $x = 3$ are greater than 3.

18. 

Answers

1.4 Cumulative Practice

1. $(7, -9)$
2. $(0, -6), (3, 0)$

1.4 Prerequisite Skills Practice

1. yes
2. no

1.4 Extra Practice

1. $(-1, 1, 3)$
2. $(2, 1, 4)$
3. no solution
4. Any ordered triple of the form $(x, 2 + 2x, -x + 1)$ is a solution.
5. Each term of the first equation should be multiplied by 3.

$$\begin{array}{r} 15x + 9y - 3z = 45 \\ 3x - 4y + 3z = 8 \\ \hline 18x + 5y = 53 \end{array}$$

6. A sandwich costs \$4.25, a juice costs \$1.50, and a fruit cup costs \$3.25.
7. $(5, 4, -3)$
8. no solution
9. no; The solution of the system is 16.4 nickels, 8.2 dimes, and 5.4 quarters. You cannot have part of a coin.
10. $a = 3$, $b = 1$, and $c = -6$; These are the values you obtain when you substitute 2 for x, -1 for y, and -4 for z.

1.4 Reteach

1. $(1, -3, -7)$
2. $(2, 1, 5)$
3. no solution
4. $(4, 0, 2)$

1.4 Enrichment and Extension

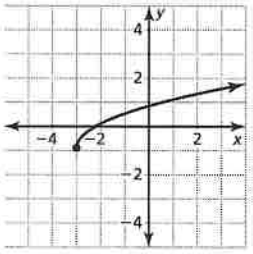
1. $(3, -2, 2, 1)$
2. $(0, -3, -1, 4)$
3. $(5, -2, 3, 4)$

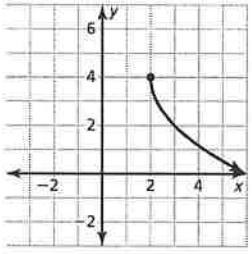
1.4 Puzzle Time

HE WAS PLAYING "THIS LITTLE PIGGY" WITH HIS BROTHER

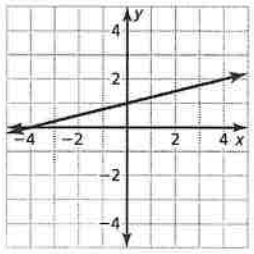
Chapter 2

2.1 Cumulative Practice

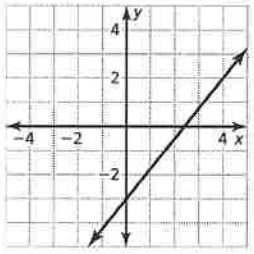
1. 

2. 

2.1 Prerequisite Skills Practice

1. 

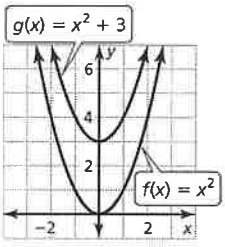
The graph of g is a horizontal stretch of the graph of f by a factor of 4.

2. 

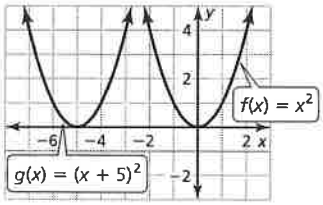
The graph of g is a horizontal shrink of the graph of f by a factor of $\frac{4}{5}$.

2.1 Extra Practice

1. The graph of g is a translation 3 units up of the graph of f.

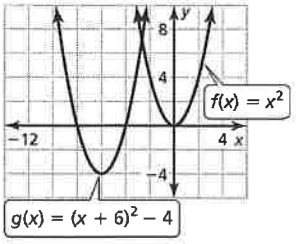


2. The graph of g is a translation 5 units left of the graph of f.

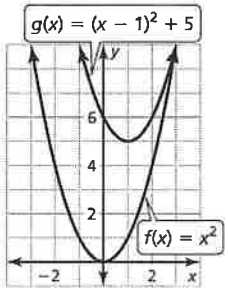


Answers

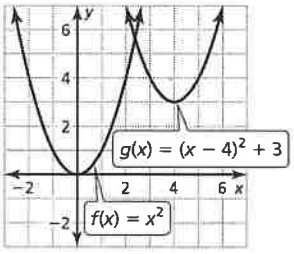
3. The graph of g is a translation 6 units left and 4 units down of the graph of f.



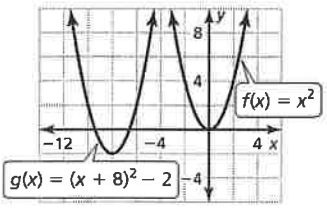
4. The graph of g is a translation 1 unit right and 5 units up of the graph of f.



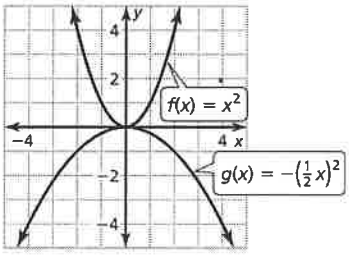
5. The graph of g is a translation 4 units right and 3 units up of the graph of f.



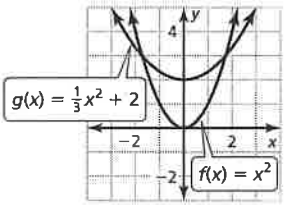
6. The graph of g is a translation 8 units left and 2 units down of the graph of f.



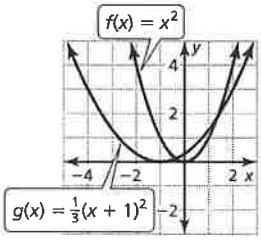
7. The graph of g is a reflection in the x-axis, followed by a horizontal stretch by a factor of 2 of the graph of f.



8. The graph of g is a vertical shrink by a factor of $\frac{1}{3}$, followed by a translation 2 units up of the graph of f.



9. The graph of g is a vertical shrink by a factor of $\frac{1}{3}$, followed by a translation 1 unit left of the graph of f.



10. The graph is a reflection in the x-axis, followed by a vertical stretch by a factor of 3 and a translation 6 units left and 4 units down of the parent quadratic function; $(-6, -4)$

11. The graph is a vertical shrink by a factor of $\frac{1}{3}$, followed by a translation 2 units right and 1 unit up of the parent quadratic function; $(2, 1)$

12. $g(x) = \dfrac{(x + 2)^2}{2}$; $(-2, 0)$

13. $g(x) = -(3x + 4)^2 - 4$; $\left(-\frac{4}{3}, -4\right)$

14.

$h(x) = f(x) + 3$	Add 3 to the output.
$= 4x^2 - 3x + 3$	Substitute $f(x)$ and simplify.
$g(x) = h(-x)$	Multiply the input by -1.
$= 4x^2 + 3x + 3$	Substitute $-x$ into $h(x)$ and simplify.

15. $g(x) = -0.12x^2 + 0.84x + 3.6$