

Answers

2.1 Puzzle Time

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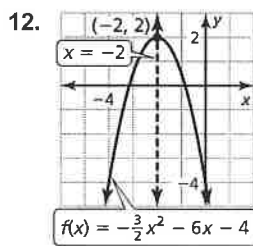
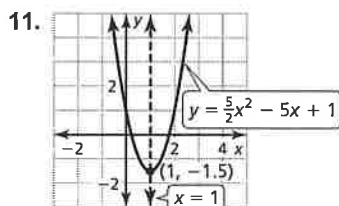
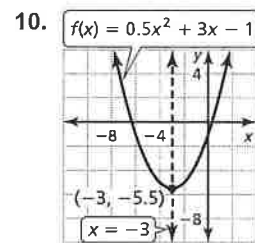
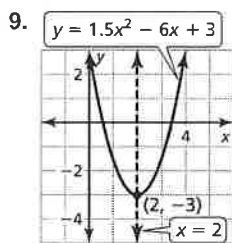
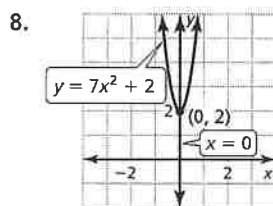
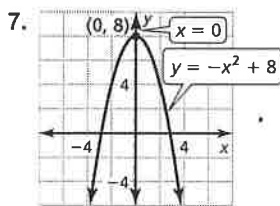
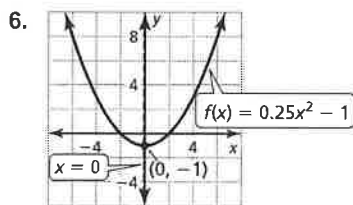
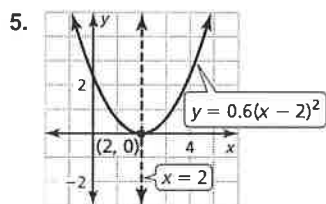
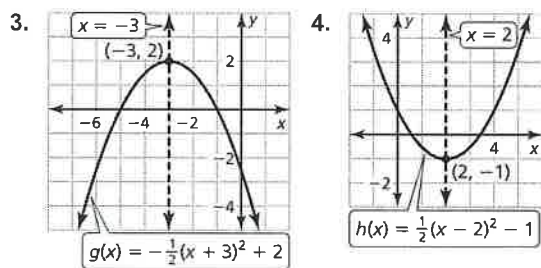
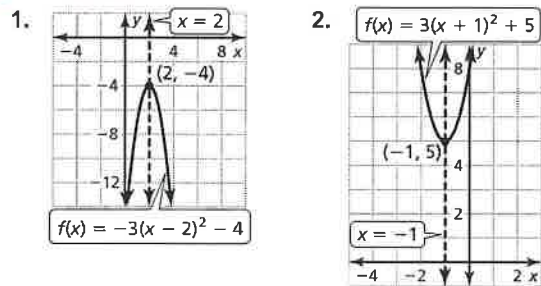
2.2 Cumulative Practice

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



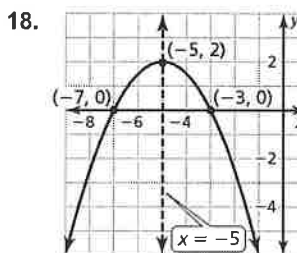
13. minimum: 12; domain: all real numbers, range: $y \geq 12$; increasing to the right of $x = 0$; decreasing to the left of $x = 0$

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

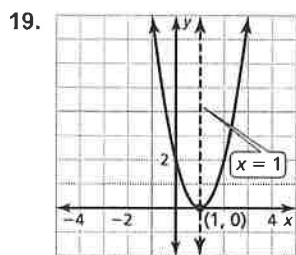
15. maximum: 6; domain: all real numbers, range: $y \leq 6$; increasing to the left of $x = -3$; decreasing to the right of $x = -3$

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.

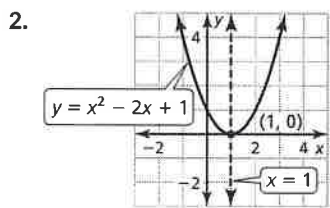
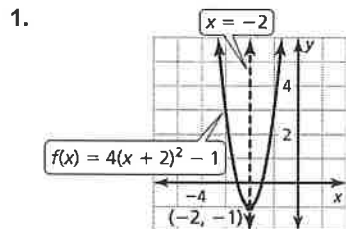


Answers



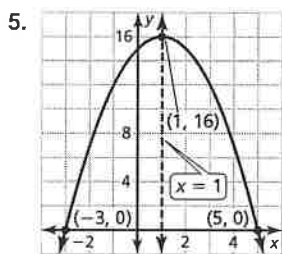
20. the first kick; the second kick

2.2 Reteach



3. minimum: 2; domain: all real numbers, range: $y \geq 2$; increasing to the right of $x = 0$; decreasing to the left of $x = 0$

4. maximum: 11; domain: all real numbers, range: $y \leq 11$; increasing to the left of $x = 1$; decreasing to the right of $x = 1$



2.2 Enrichment and Extension

1. $y = 3x^2 - 6x + 1$ 2. $y = x^2 + 2x - 1$
 3. $y = -2x^2 - 8x + 1$ 4. $y = -3x^2 - 6x - 3$
 5. $y = -x^2 + 2x + 5$ 6. $y = \frac{1}{2}x^2 + 2x + 2$

7. no; The definition of a quadratic function says $a \neq 0$, but for the axis of symmetry to be undefined, a would have to be 0.

8. *Sample answer:* $(-1, 10)$; The x -value 7 is 4 units away from the vertex x -value 3. Because the x -value -1 is also 4 units away from 3, it has the same output value 10.

2.2 Puzzle Time

ONE IS A FUNNY BONE AND THE OTHER IS A BUNNY'S PHONE

2.3 Cumulative Practice

1. $x = 4 \pm \sqrt{73}$ 2. $x = 5 \pm \sqrt{37}$

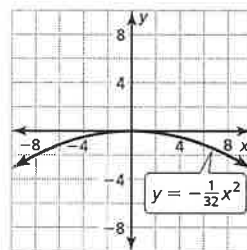
2.3 Prerequisite Skills Practice

1. 11.7 2. 3.2

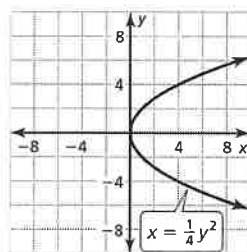
2.3 Extra Practice

1. $y = \frac{1}{20}x^2$ 2. $y = -\frac{1}{24}x^2$ 3. $y = \frac{1}{16}x^2$
 4. $y = -\frac{1}{32}x^2$ 5. $y = -\frac{1}{28}x^2$ 6. $y = \frac{1}{8}x^2$

7. focus: $(0, -8)$, directrix: $y = 8$, axis of symmetry: $x = 0$



8. focus: $(1, 0)$, directrix: $x = -1$, axis of symmetry: $y = 0$



9. focus: $(3, 0)$, directrix: $x = -3$, axis of symmetry: $y = 0$

