

Practice 15

Sketching Quadratic Functions

Use the vertex and intercepts to sketch the graph of the quadratic function.

1) $y + 2 = (x + 4)^2$ 1) _____

2) $f(x) = 4(x - 6)^2 + 4$ 2) _____

3) $f(x) = 1 - (x - 1)^2$ 3) _____

4) $f(x) = x^2 + 2x - 8$ 4) _____

5) $f(x) = -x^2 - 2x + 8$ 5) _____

6) $f(x) = x^2 - 4x + 3$ 6) _____

7) $f(x) = -4x + 3 + x^2$ 7) _____

8) $f(x) = 6 + 5x + x^2$ 8) _____

Determine whether the given quadratic function has a minimum value or maximum value. Then find the coordinates of the minimum or maximum point.

9) $f(x) = 2x^2 - 2x - 8$ 9) _____

A) minimum; $\left(\frac{1}{2}, -\frac{17}{2}\right)$

B) minimum; $\left(-\frac{17}{2}, \frac{1}{2}\right)$

10) $f(x) = 3x^2 - 6x$ 10) _____

A) minimum; $(1, -3)$

B) minimum; $(-1, -3)$

11) $f(x) = -4x^2 - 12x$ 11) _____

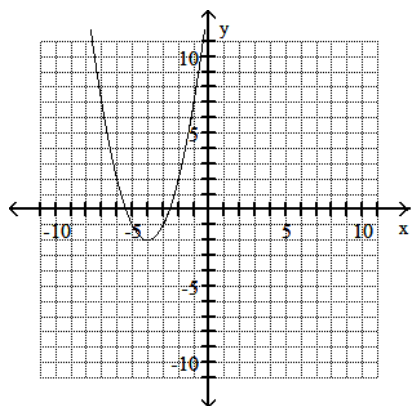
A) minimum; $\left(\frac{3}{2}, -9\right)$

B) maximum; $\left(-\frac{3}{2}, 9\right)$

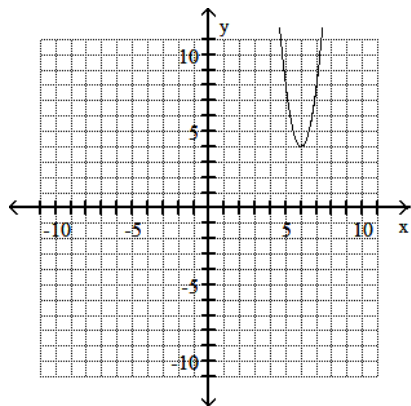
Answer Key

Testname: 15_SKETCHING QUADRATIC FUNCTIONS

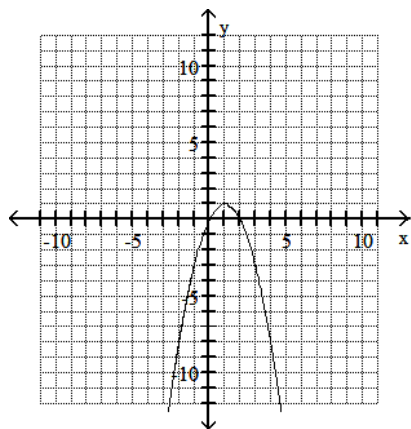
1)



2)



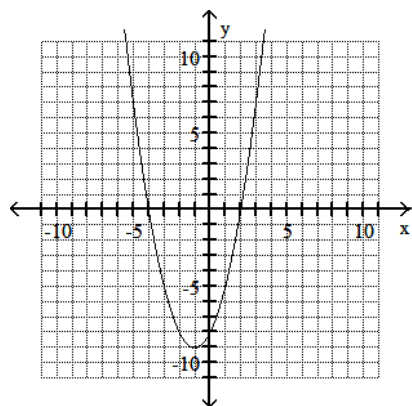
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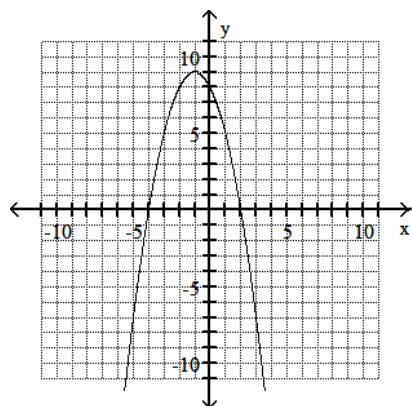
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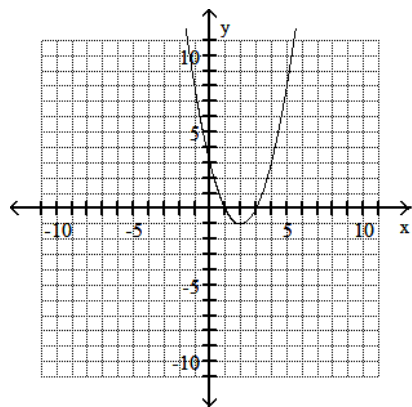
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5)



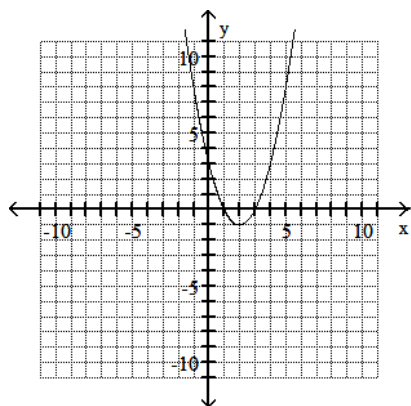
6)



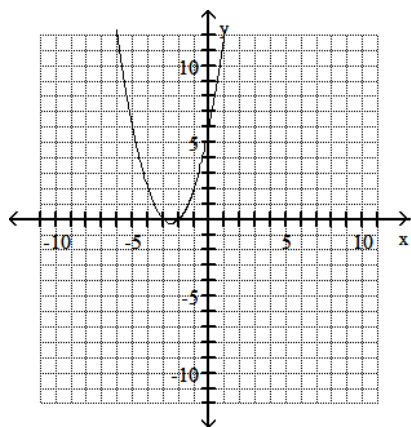
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7)



8)



9) A

10) A

11) B