

NAME _____ DATE _____ PER. _____

ANALYZING QUADRATIC FUNCTIONS IN THE CALCULATOR

Graph in the calculator, and answer the following. Round answers to the nearest tenth, if necessary.

1. $f(x) = x^2 + 8x + 12$

Vertex: _____ Max or Min Axis of symmetry: _____

x-intercepts: _____ y-intercept: _____

$f(2) =$ _____ Range: _____

2. $g(x) = -3x^2 - 6x + 2$

Vertex: _____ Max or Min Axis of symmetry: _____

Roots: _____ y-intercept: _____

$g(4) =$ _____ Domain: _____

3. $h(x) = x^2 + 12x + 35$

Vertex: _____ Max or Min Axis of symmetry: _____

Zeros: _____ y-intercept: _____

$h(-7) =$ _____ When $h(x) = 8$, $x =$ _____

Answer the following, using a calculator as needed.

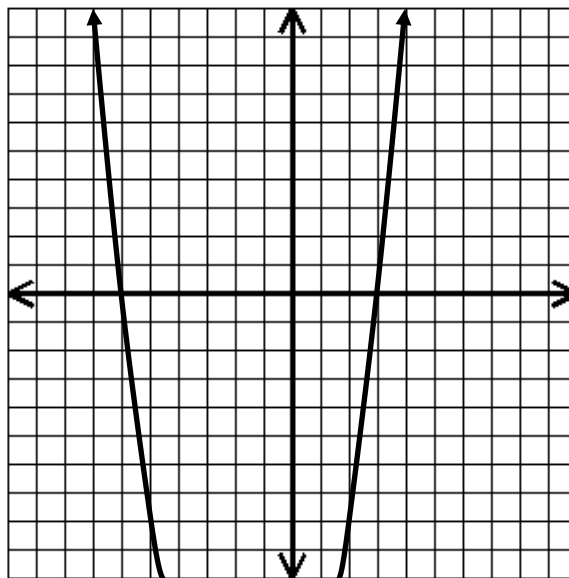
4. The function $j(x) = x^2 + 3x - 18$ is graphed.

What are the roots of $j(x)$?

What are the solutions to $j(x) = 0$?

Does $j(x)$ have a maximum or minimum point?

$j(2) =$ _____



<p>5. Find the solutions to $x^2 - 9x + 20 = 0$ by graphing or factoring.</p>	<p>6. What is the vertex of $y = -x^2 - x + 6$?</p>
<p>7. What are the roots of $3x^2 + 2x = 6$?</p>	<p>8. What are the zeros of the function $f(x) = 3x - 9$?</p>
<p>9. What is the maximum point of $f(x) = -x^2 - 3x + 4$?</p>	<p>10. Find the solutions to $2x^2 = 7x + 6$.</p>

Review. Show all work.

<p>11. If $(x, -3)$ is a solution to the equation $3x - 2y - 15 = 0$, what is the value of x?</p>	
<p>12. The area of a rectangle is $30m^{11}n^5$ square units. If the length of the rectangle is $6m^4n^2$ units, how many units wide is the rectangle?</p> <p>A. $5m^7n^3$ units B. $24m^7n^3$ units C. $36m^{15}n^7$ units D. $180m^{15}n^7$ units</p>	<p>13. Which expression describes the area in square units of a rectangle that has a width of $4x^3y^2$ and a length of $3x^2y^3$?</p> <p>A. $12x^6y^6$ B. $12x^5y^5$ C. $7x^6y^6$ D. $7x^5y^5$</p>