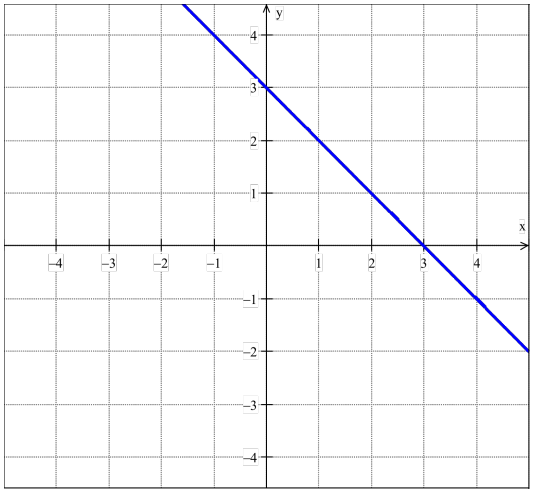
Name: _____ Period: _____ Date: _____

Analyzing Graphs of Functions and Relations Assignment

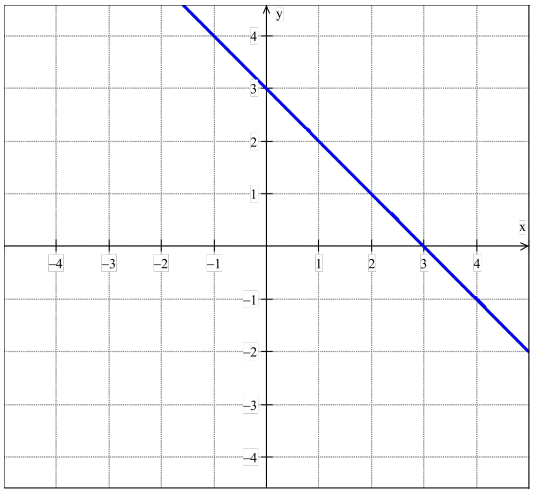
Use a graph of each function to estimate the indicated function values.

1. $f(x) = -x + 3$

$f(-1) = ?$ $f(0) = ?$ $f(3) = ?$



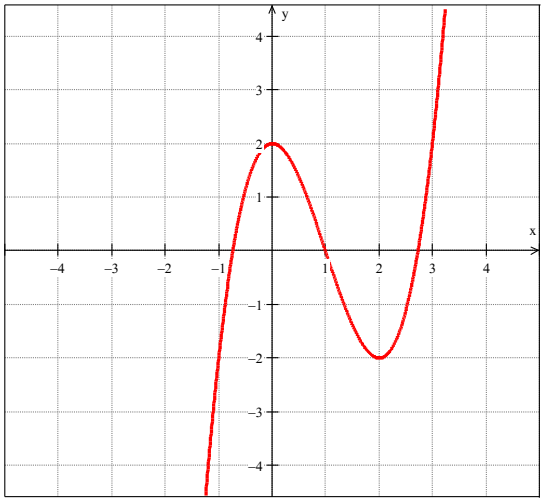
Graphically



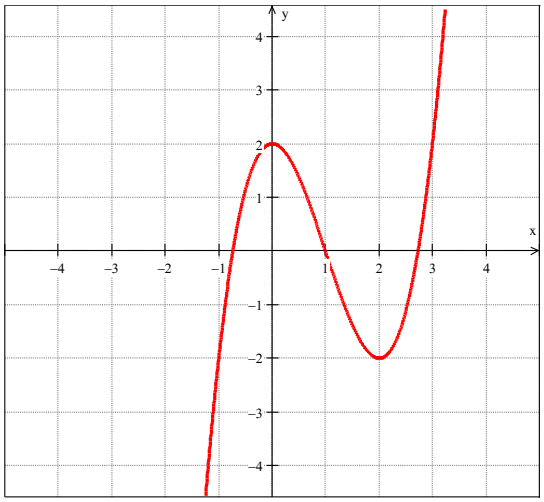
Algebraically

2. $f(x) = x^3 - 3x^2 + 2$

$f(-1) = ?$ $f(0) = ?$ $f(2) = ?$



Graphically



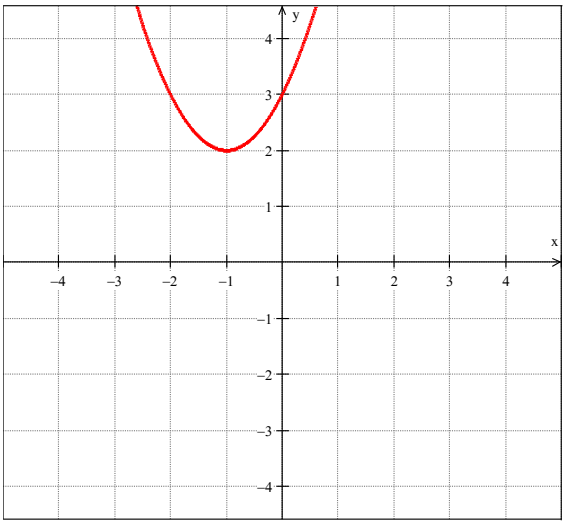
Algebraically

Name: _____ Period: _____ Date: _____

Analyzing Graphs of Functions and Relations Assignment

Use the graph of each function to approximate its y –intercept. Then find the y –intercept algebraically.

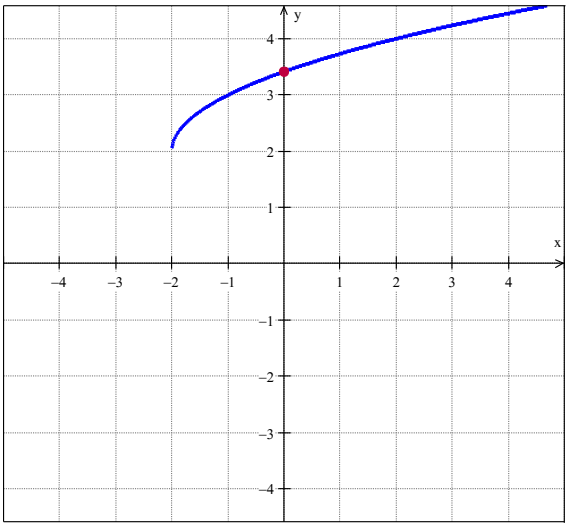
3. $f(x) = x^2 + 2x + 3$



Graphically

Algebraically

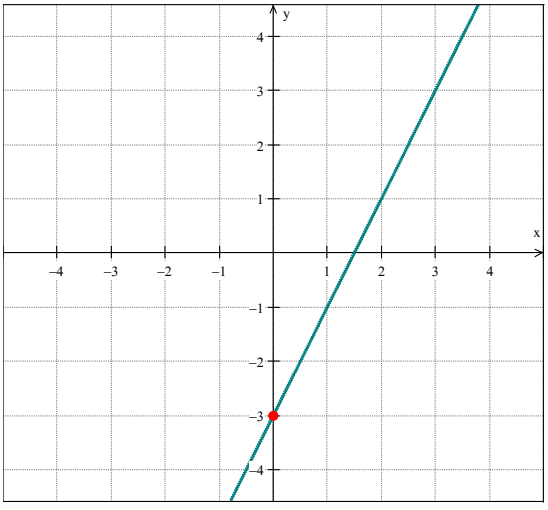
4. $f(x) = \sqrt{x+2} + 2$



Graphically

Algebraically

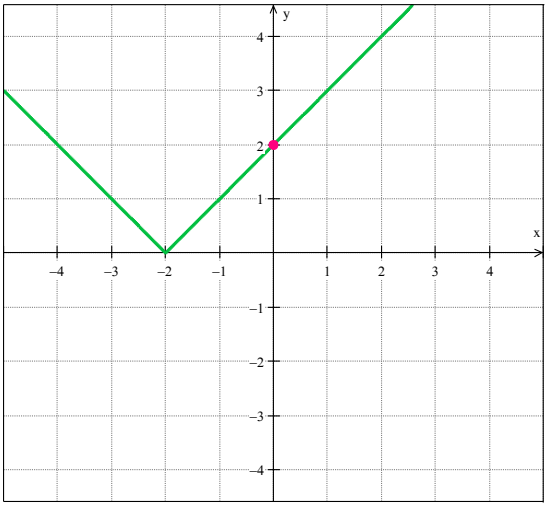
5. $f(x) = 2x - 3$



Graphically

Algebraically

6. $f(x) = |x + 2|$



Graphically

Algebraically

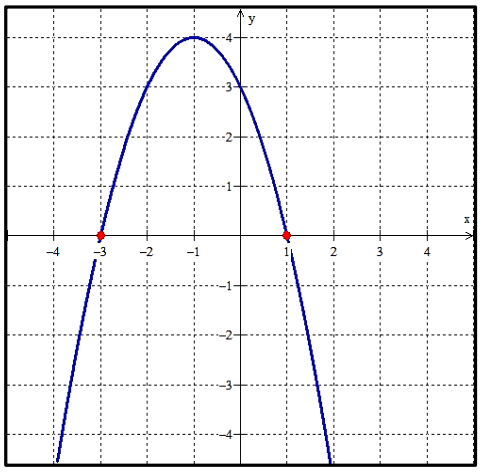
Name: _____ Period: _____ Date: _____

Analyzing Graphs of Functions and Relations Assignment

Use the graph of each function to approximate its zeros. Then find the zeros of each function algebraically.

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

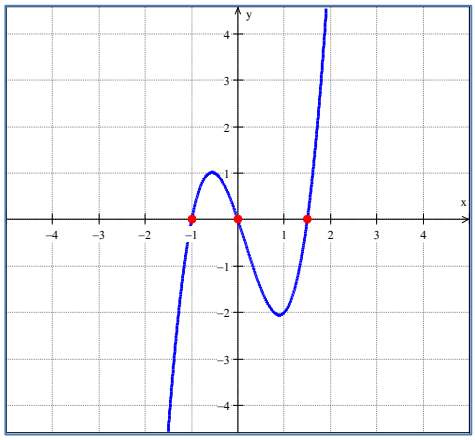
Graphically



Algebraically

8. $f(x) = 2x^3 - x^2 - 3x$

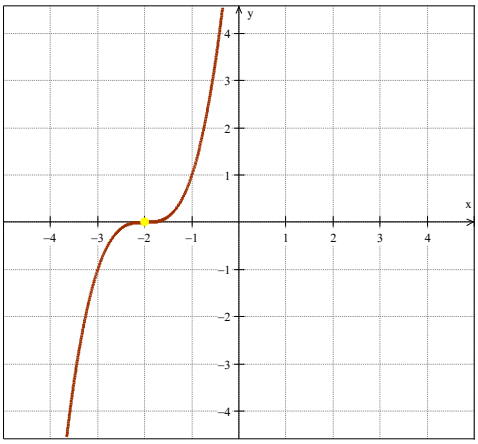
Graphically



Algebraically

9. $f(x) = x^3 - 6x^2 - 12x + 8$

Graphically



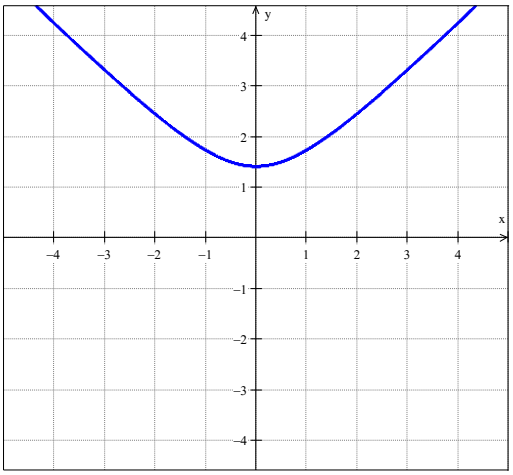
Algebraically

Name: _____ Period: _____ Date: _____

Analyzing Graphs of Functions and Relations Assignment

Use the graph of each equation to test for symmetry with respect to the x -axis, y -axis, and the origin. Support the answer numerically. Then confirm algebraically.

10. $y = \sqrt{x^2 + 2}$



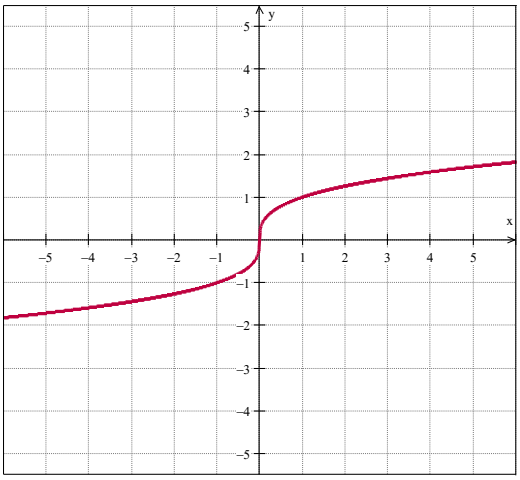
Graphically

Support Numerically

x					
y					
(x, y)					

Algebraically

11. $y = \sqrt[3]{x}$



Graphically

Support Numerically

x					
y					
(x, y)					

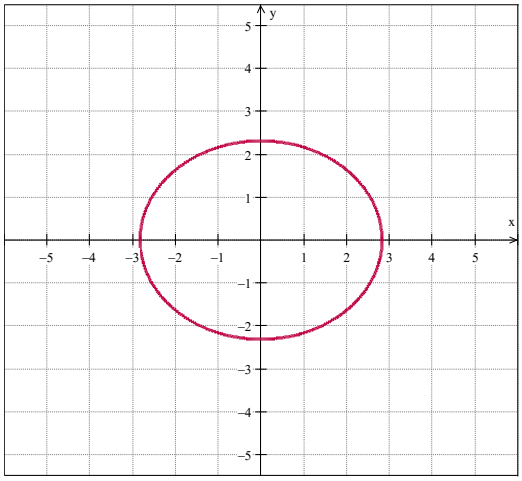
Algebraically

Name: _____ Period: _____ Date: _____

Analyzing Graphs of Functions and Relations Assignment

12. $2x^2 + 3y^2 = 16$

Graphically



Symmetric with respect to x -axis

Algebraically

Support Numerically

x				
y				
(x, y)				

Symmetric with respect to y -axis

Algebraically

Support Numerically

x				
y				
(x, y)				

Symmetric with respect to origin

Algebraically

Support Numerically

x				
y				
(x, y)				

Name: _____ Period: _____ Date: _____

Analyzing Graphs of Functions and Relations Assignment

Determine whether the following are even, odd, or neither.

13. $f(x) = x^3 + 2x$

14. $g(t) = 2t^4 + t^2$

15. $h(y) = y^4 - 5y^2 - 3y$

SOLVE REAL WORLD PROBLEM

16. The temperature T in degrees Fahrenheit t hours after 6 AM is given by $T(t) = -\frac{1}{2}t^2 - 8t + 3$, $for\ 0 < t < 10$. Find $T(0), T(2)$and $T(6)$ graphically and algebraically.

Graphically **Algebraically**