

6.3 Intercepts and Linear Factors

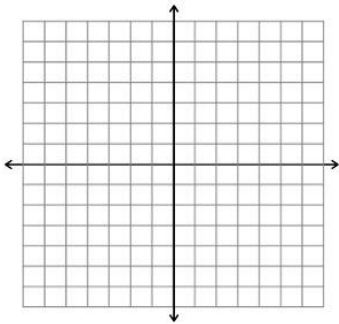
NAME: _____ HOUR: _____

1-6 For each of the following: Find the Standard Form equation, Find the Vertex, then sketch the linear factors and the quadratic. Lastly state the solutions

1. $f(x) = (x - 1)(x + 5)$

Standard Form:

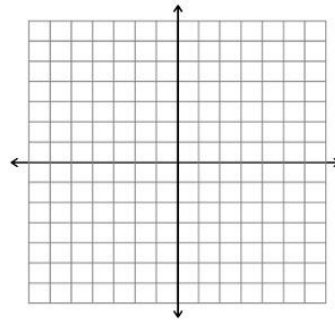
Vertex: Solutions:



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

Standard Form:

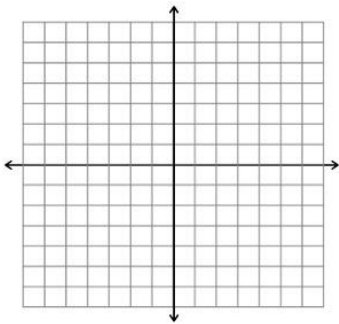
Vertex: Solutions:



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

Standard Form:

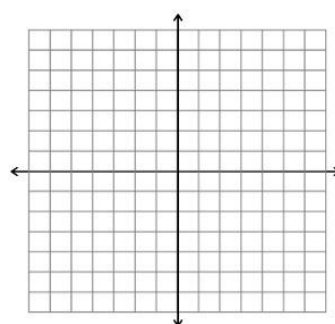
Vertex: Solutions:



2. $f(x) = -2(x - 2)(x - 6)$

Standard Form:

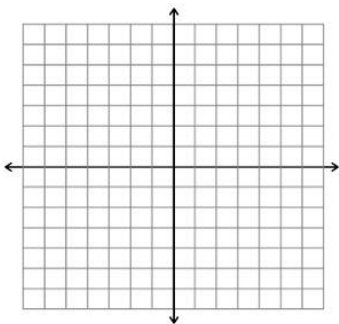
Vertex: Solutions:



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

Standard Form:

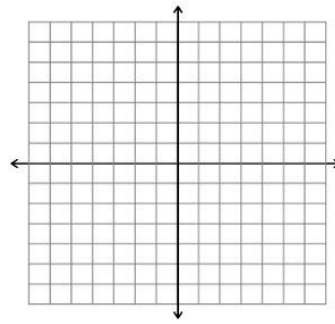
Vertex: Solutions:



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

Standard Form:

Vertex: Solutions:



7-11 Identify the zeros for the following quadratics that are in factored form.

7. $g(x) = 2(x + 3)(x - 5)$

8. $h(x) = -5(x - 4)(x - 8)$

9. $f(x) = -16x(x + 9)$

10. $m(x) = (2x - 3)(5x + 2)$

11. $t(x) = -3(x + 4)(7x - 6)$

12. A football is kicked off from the ground. The function $h(t) = -16t(t - \frac{5}{2})$, gives the height of the ball at t seconds. After how many seconds will the ball come back down to the ground?

13. A rock is thrown upwards off a cliff, the height of the rock above the ocean below is given with the function: $h(t) = -4(4t + 1)(t - 3)$, at t seconds. What is the maximum height the rock will get? How long will it take for the rock to hit the ocean below?

14. How is the graph of $f(x) = 7(x + 3)(x - 2)$ similar to and different from the graph of $g(x) = -7x^2 - 7x + 42$? You may want to graph to compare.

15. Write a quadratic function, with zeros at 4 and -1. Then find the standard form of the function.

16 Find a quadratic function that has zeros at -6 and 13. Then find the standard form of the function.