Graphing Quadratics in Intercept Form

Solve each of the following equations.

Example: $(x+5)(2x+5)=0$

Solution

$x+5=0$ $\quad 2x+5=0$

$x=-5$ $\quad 2x=-5$

$\quad x=-5/2$

{-5, -5/2}

1. $(3x-2)(x+2)=0$

2. $(x-7)(x-3)=0$

3. $(x+9)(x-9)=0$

4. $(3x+2)(2x-7)=0$

5. $(x+7)(x+9)=0$

Example: $y=-(x+4)(x-2)$

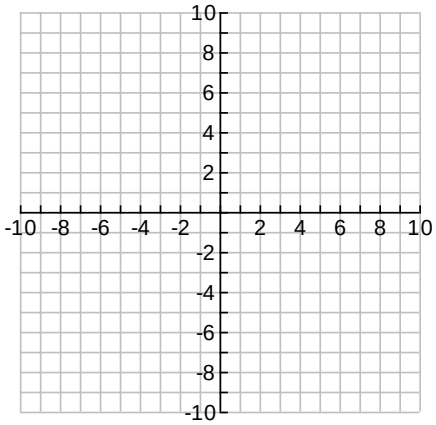
Which way does the graph open? _____

The x-intercepts are: _____

y-intercept	vertex

x					
y					

Sketch the graph.



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6. $y = (x-3)(x-5)$

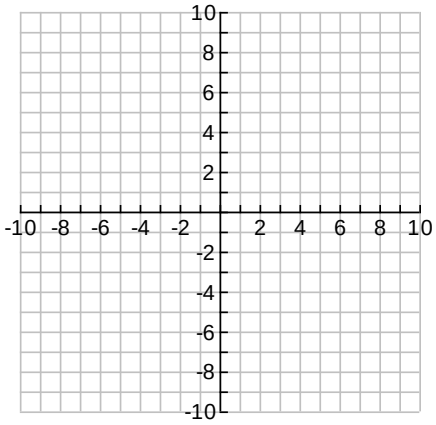
Which way does the graph open? _____

The x-intercepts are: _____

y-intercept	vertex

x					
y					

Sketch the graph.



7. $y = 2(x-3)(x-4)$

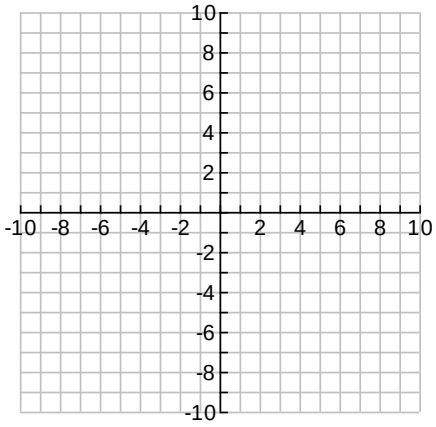
Which way does the graph open? _____

The x-intercepts are: _____

y-intercept	vertex

x					
y					

Sketch the graph.



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8. $y = (x-7)(x-1)$

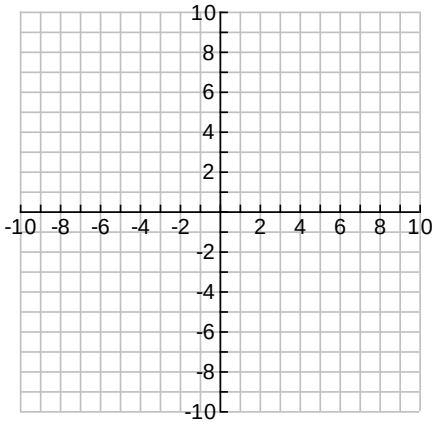
Which way does the graph open? _____

The x-intercepts are: _____

y-intercept	vertex

x					
y					

Sketch the graph.



9. $y = -2x(x+4)$

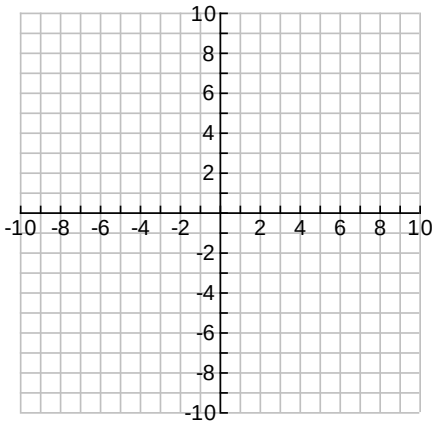
Which way does the graph open? _____

The x-intercepts are: _____

y-intercept	vertex

x					
y					

Sketch the graph.



Multiply the following polynomials.

Example: $(x+5)(2x-3)$

Techniques: Box Method or FOIL (First, Outer, Inner, Last)

$(x+5)(2x-3)$	$(x+5)(2x-3)$

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10. $(x+5)(x-4)$	*11.* $(x+7)(x+4)$
12. $(2x-5)(2x+5)$	*13.* $(x-11)(x-2)$
14. $(3x+7)(2x-4)$	*15.* $2(x-4)(x-8)$

Change the following quadratic functions to standard form.

Example: $y=2(x-4)(x-8)$	16. $y=(x+3)(x+1)$
17. $y=(x-7)(x-2)$	18. $y=(x-5)(x+2)$
19. $y=-2(x-4)(x-1)$	20. $y=(x-2)(3x+1)$