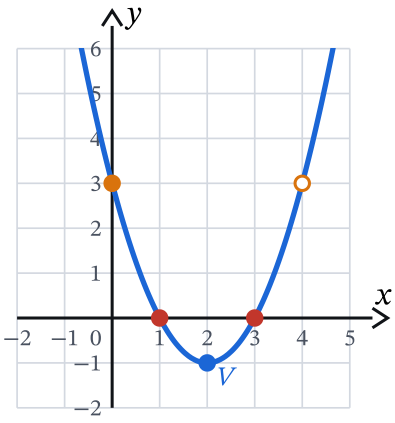
Name _____ Date _____

Graph from Formula, Formula from Graph

Example

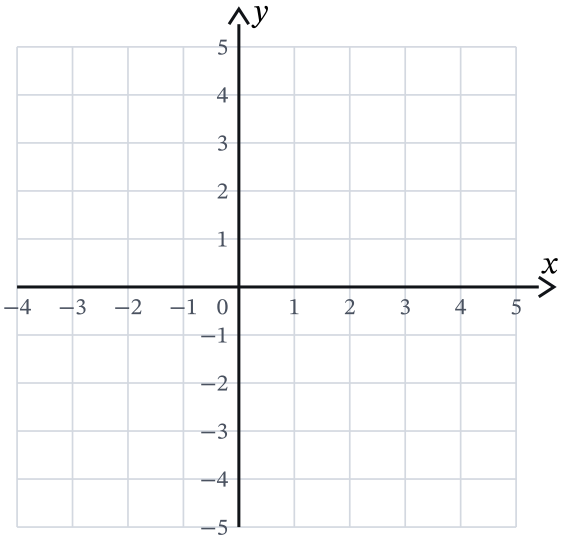


$f(x) = x^2 - 4x + 3$

1. y-intercept: $(0, c)$
2. vertex: $p = -\frac{b}{2a}, q = f(p)$
3. zeros (if there are any)
4. the point symmetric to the y-intercept
5. draw a smooth parabola

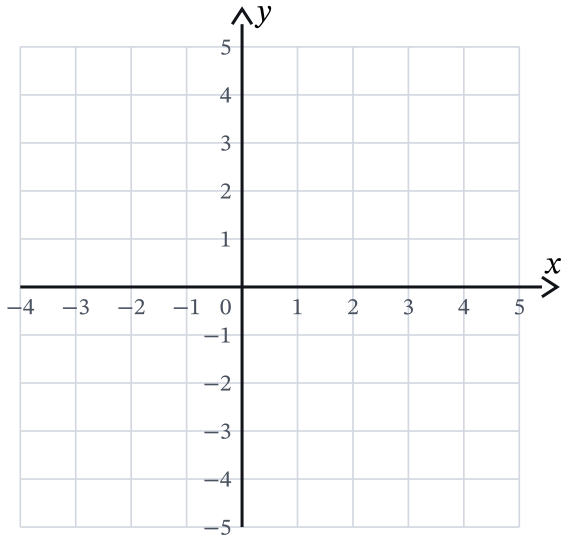
1 ON YOUR OWN Draw the graph in five steps. Tick each step.

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



- ☐ y -intercept: $(0, c)$
- ☐ vertex: $p = -\frac{b}{2a}$, $q = f(p)$
- ☐ zeros (if there are any)
- ☐ the point symmetric to the y -intercept
- ☐ draw a smooth parabola

$g(x) = -x^2 + 4x$

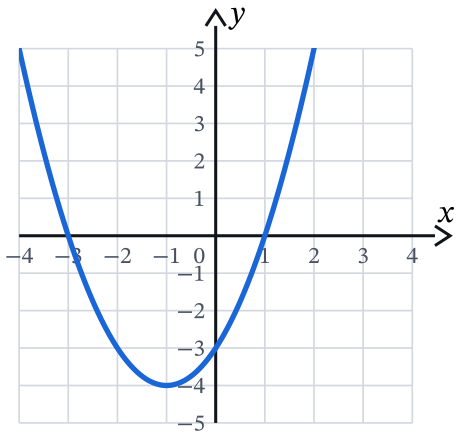


- ☐ y -intercept: $(0, c)$
- ☐ vertex: $p = -\frac{b}{2a}$, $q = f(p)$
- ☐ zeros (if there are any)
- ☐ the point symmetric to the y -intercept
- ☐ draw a smooth parabola

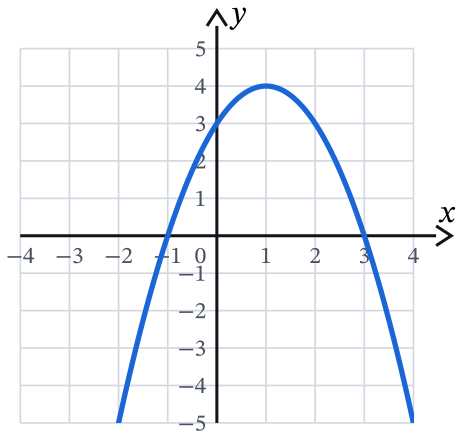
Names (pair) _____ Date _____

2 IN PAIRS **Formula from the graph.** One student reads the vertex and the zeros, the other writes the formula in all three forms. Swap roles.

A



B



	Vertex form	Standard form	Factored form
A			
B			

3 IN A GROUP **The same graph?** Circle the formulas that describe the same parabola as $f(x) = (x - 2)^2 - 1$.

$x^2 - 4x + 3$ $(x - 1)(x - 3)$ $(x + 2)^2 - 1$ $x^2 - 4x + 5$

$(x - 3)(x - 1)$ $x^2 + 4x + 3$

★ ON YOUR OWN **Exit card.** The vertex of $y = x^2 - 6x + 8$ is $V($ ☐ , ☐ $)$, and the zeros are ☐ and ☐.