

Standard form: $y = ax^2 + bx + c$

Vertex form: $y = a(x-h)^2 + k$

More Vertex Form Worksheet

Using the same processes we developed in "Vertex Form Begun," rewrite each of these quadratic equations.

Expand each quadratic and write in Standard Form. Identify the Vertex for each: (?, ?)

| Vertex Form | Standard Form | Vertex is at ... |
|---|---------------|------------------|
| 1. $y = (x+3)^2 - 10$ $a =$ $h =$ $k =$ | | |
| 2. $y = (x-5)^2 + 4$ $a =$ $h =$ $k =$ | | |
| 3. $y = (x + \frac{2}{3})^2 + \frac{2}{9}$ $a =$ $h =$ $k =$ | | |
| 4. $y = 2(x+1)^2 - 7$ $a =$ $h =$ $k =$ | | |

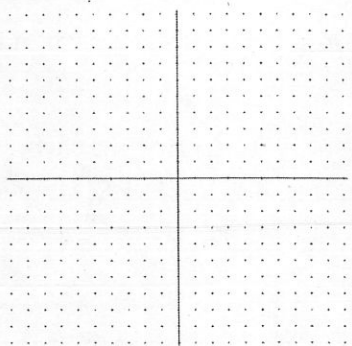
Now, take each of these and rewrite in Vertex Form. Then identify the vertex: (?, ?)

$$X = \frac{-b}{2a}$$

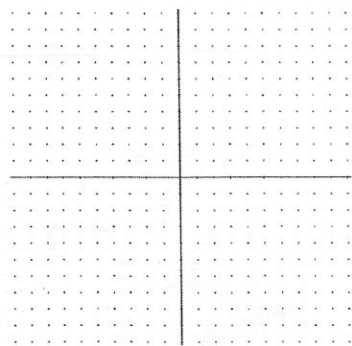
| Standard Form | Vertex Form | Vertex is at ... |
|---|-------------|------------------|
| 5. $y = x^2 + 8x - 1$ $a =$ $b =$ $c =$ | | |
| 6. $y = x^2 - 6x + 17$ $a =$ $b =$ $c =$ | | |
| 7. $y = x^2 - 5x - 11$ $a =$ $b =$ $c =$ | | |
| 8. $y = x^2 + 10x$ $a =$ $b =$ $c =$ | | |
| 9. $y = x^2 + bx + c$ $a =$ $b =$ $c =$ | | |

Convert the following quadratics from standard form to vertex form, then graph them.

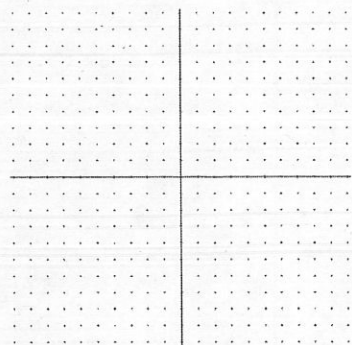
10) $y = x^2 - 6x + 7$



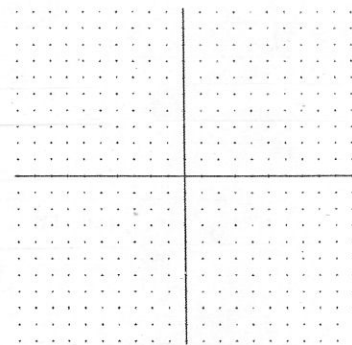
11) $y = x^2 + 6x + 5$



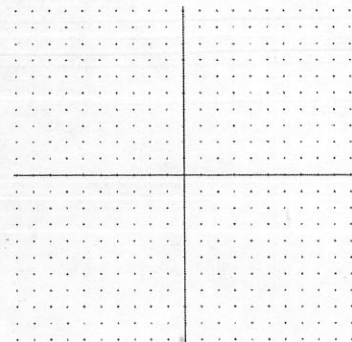
12) $y = -x^2 + 4x - 1$



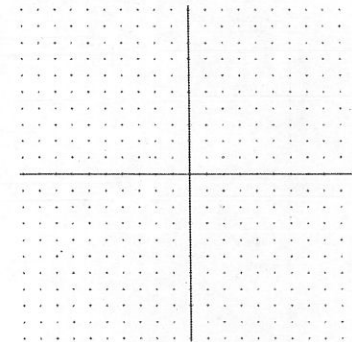
13) $y = -x^2 - 6x - 7$



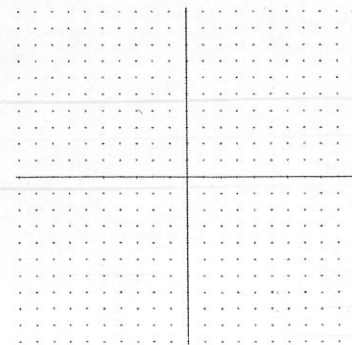
14) $y = 2x^2 - 8x + 9$



15) $y = -x^2 - 6x - 10$



16) $y = -2x^2 + 12x - 21$



17) $y = x^2 + 8x + 15$

