

NAME: _____

1. Rewrite the equation of a parabola in vertex form. $y = x^2 + 14x + 51$

[A] $y = (x + 14)^2 + 9$ [B] $y = (x + 7)^2 - 2$

[C] $y = (x + 14)^2 - 9$ [D] $y = (x + 7)^2 + 2$

2. Rewrite the equation of a parabola in vertex form. $y = x^2 + 10x + 19$

[A] $y = (x + 10)^2 - 1$ [B] $y = (x + 5)^2 + 6$

[C] $y = (x + 5)^2 - 6$ [D] $y = (x + 10)^2 + 1$

3. Write in standard form (for a parabola):

$y = x^2 + 14x + 9$

[A] $y = (x + 7)^2 + 205$

[B] $y = (x + 7)^2 - 58$

[C] $y = (x + 7)^2 + 58$

[D] $y = (x + 7)^2 - 40$

4. Write in standard form (for a parabola):

$y = x^2 + 18x + 6$

[A] $y = (x + 9)^2 - 87$

[B] $y = (x + 9)^2 - 75$

[C] $y = (x + 9)^2 + 330$

[D] $y = (x + 9)^2 + 87$

5. Which is the vertex form of this equation?

$y = -x^2 + 5x - 1$

[A] $y = -\left(x - \frac{5}{2}\right)^2 + \frac{21}{4}$

[B] $y = -\left(x + \frac{5}{2}\right)^2 - \frac{29}{4}$

[C] $y = -\left(x - \frac{5}{2}\right)^2 - \frac{29}{4}$

[D] $y = \left(x - \frac{5}{2}\right)^2 + \frac{21}{4}$

6. Rewrite the equation of a parabola in vertex form. $y = x^2 - 16x + 59$

7. Rewrite the equation of a parabola in vertex form. $y = x^2 - 2x - 3$

8. Rewrite the equation of a parabola in vertex form. $y = x^2 + 6x + 16$

9. Rewrite the equation of a parabola in vertex form. $y = x^2 - 10x + 34$

10. Find p , q , and r so that this equation is a parabola: $px^2 + qy^2 + 2x + 6y + r = 0$

[1] D

[2] C

[3] D

[4] B

[5] A

[6] $y = 6x - 8y^2 - 5$

[7] $y = 6x - 1y^2 - 4$

[8] $y = 6x + 3y^2 + 7$

[9] $y = 6x - 5y^2 + 9$

[10] Answers may vary. Sample: (Either p or q must be zero) $p = 1$, $q = 0$, $r = 12$