

Foundations of Math 11

Quadratics: Standard Form: $y = ax^2 + bx + c$

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

Put the following equations in standard form by completing the square.

1. $y = x^2 + 4x$

2. $y = x^2 - 4x$

3. $y = x^2 - 6x$

4. $y = x^2 + 5x$

5. $y = x^2 - 3x$

6. $y = x^2 - 16x$

7. $y = x^2 + 2x$

8. $y = 2x^2 + 4x$

9. $y = x^2 + 4x - 2$

10. $y = x^2 - 6x + 1$

11. $y = x^2 - 8x - 5$

12. $y = x^2 - 3x + 1$

13. $y = x^2 + 2x - 5$

14. $y = x^2 + 6x + 5$

15. $y = x^2 - 3x + 3$

16. $y = x^2 - 5x - 2$

SOLUTIONS:

#1. $y = (x+2)^2 - 4$

#2. $y = (x-2)^2 - 4$

#3. $y = (x-3)^2 - 9$

#4. $y = \left(x + \frac{5}{2}\right)^2 - \frac{25}{4}$

#5. $y = \left(x - \frac{3}{2}\right)^2 - \frac{9}{4}$

#6. $y = (x-8)^2 - 64$

#7. $y = (x+1)^2 - 1$

#8. $y = 2(x+1)^2 - 2$

#9. $y = (x+2)^2 - 6$

#10. $y = (x-3)^2 - 8$

#11. $y = (x-4)^2 - 21$

#12. $y = \left(x - \frac{3}{2}\right)^2 - \frac{5}{4}$

#13. $y = (x+1)^2 - 6$

#14. $y = (x+3)^2 - 4$

#15. $y = \left(x - \frac{3}{2}\right)^2 + \frac{3}{4}$

#16. $y = \left(x - \frac{5}{2}\right)^2 - \frac{33}{4}$