

Add the number needed to complete the square. Then, write the result as the square of a binomial.

1. $x^2 + 2x + \dots$

2. $x^2 - 2x + \dots$

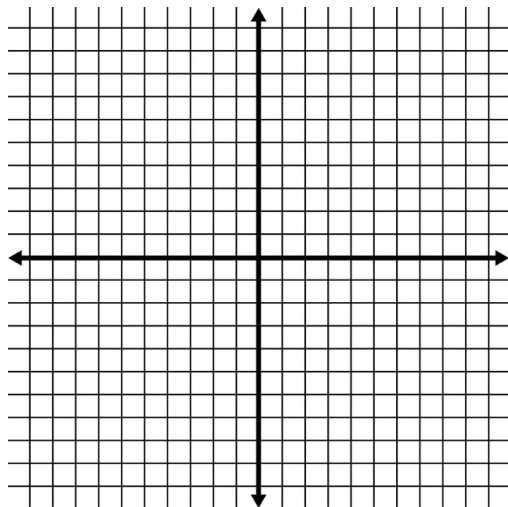
3. $x^2 - 6x + \dots$

4. $x^2 + 8x + \dots$

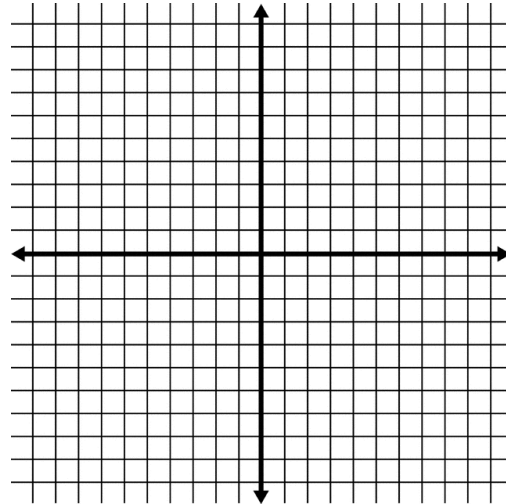
Rewrite in vertex form by completing the square. Then graph.

5. $f(x) = x^2 - 6x + 6$

6. $f(x) = x^2 + 2x + 8$

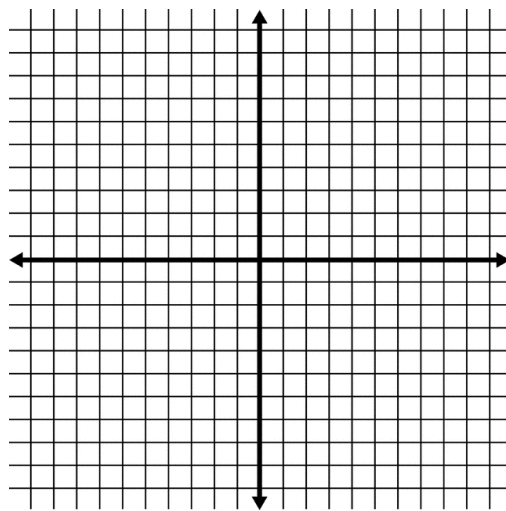
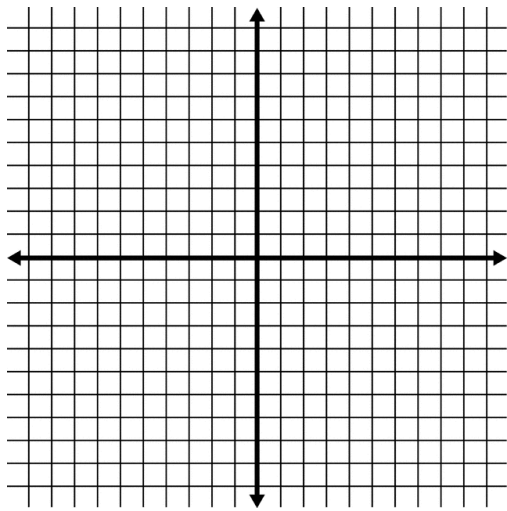


7.



6. $f(x) = x^2 - 2x + 4$

7. $f(x) = x^2 + x - 6$



Rewrite in vertex form by completing the square.

8. $f(x) = x^2 - 32x + 100$

9. $f(x) = x^2 + 50x - 3$

10. $f(x) = x^2 + 4x - 6$

11. $f(x) = x^2 - 6x - 13$

Solve by completing the square.

12. $x^2 - 8x = 65$

13. $c^2 - 12c = -38$

14. $a^2 + 16 = -10a$

15. $m^2 = -20m - 64$

16. $b^2 - 18b + 47 = -10$

17. $h^2 + 14h + 3 = 4$