Name: _____ Date: _____

Take half of the x-coefficient, square it, add it to BOTH sides. Turns x^2 + bx into a perfect square. Last two are challenge problems!

1. What completes x^2 + 6x + ___?

show your work

2. x^2 + 6x + 9 = ( )^2.

show your work

3. What completes x^2 - 10x + ___?

show your work

4. Solve x^2 + 6x = 7 by completing the square.

show your work

5. Solve x^2 - 4x = 5.

show your work

6. Rewrite x^2 - 6x = 24 in the form (x - h)^2 = k. (Trainer echo - Jan 2026 Q23!)

show your work

7. Rewrite x^2 - 6x = 27 with completing the square. (Trainer echo - June 2025 Q11!)

show your work

8. Solve x^2 + 8x + 5 = 0.

show your work

9. ★ CHALLENGE

Solve x^2 + 14x - 28 = 0, writing it as (x + p)^2 = q first. (Trainer echo - Aug 2025 Q30!)

show your work

10. ★ CHALLENGE

Convert y = x^2 + 4x + 1 to vertex form by completing the square, then state the vertex.

show your work