

Name: _____

Date: _____

Set the line equal to the parabola, move all to one side, solve the quadratic. Usually TWO intersection points. Last two are challenge.

1. Solve $y = x^2$ and $y = 4$ (set equal).

show your work

2. Solve $y = x^2$ and $y = x + 2$.

show your work

3. Solve $y = x^2 - 1$ and $y = 3$.

show your work

4. Solve $y = x^2 + 2x$ and $y = x + 2$.

show your work

5. $f(x) = x^2$, $g(x) = 8x - 15$. For which x is $f = g$? (Trainer echo - Aug 2025 Q6!)

show your work

6. Solve $y = x^2 - 4$ and $y = 2x - 1$.

show your work

7. How many times can a line cross a parabola?

show your work

8. Solve $y = x^2 + 9x + 4$ and $y - 2x = -6$. (Trainer echo - June 2025 Q34!)

show your work

9. A line $y = 2x + 1$ meets $y = x^2 + 1$.
Find both points, and the distance between their x-values.

★ CHALLENGE

show your work

10. For what value of c does $y = x^2$ and $y = x + c$ meet at exactly ONE point? (Hint: discriminant = 0.)

★ CHALLENGE

show your work