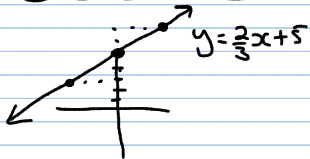


GRAPHING QUADRATIC FUNCTIONS

Back in Gr 10:

$$y = \left(\frac{2}{3}\right)x + 5$$



LINEAR Fⁿs → straight line
→ have an x¹

$$2x + 5y - 3 = 0 \quad \text{General form}$$

$$2x + 5y = 3 \quad \text{Standard form}$$

$$y = -\frac{2}{5}x + \frac{3}{5} \quad \text{slope-int. form (y=mx+b)}$$

In Gr 11

• A QUADRATIC Function has an x² in it with no higher powers of x & no "weird" powers of x

Quad. ✓ $y = x^2 + 2x + 1$

Quad ✓ $y = x^2$

NOT Quad $y = 3x^2 + x^{1/2}$ → "weird" power

NOT Quad $y = 5x^2 + x^2$ ^{too high}

$$y = x^2 + \left(\frac{1}{x}\right)$$

NOT Quad $y = x^2 + x^{-1}$ weird power

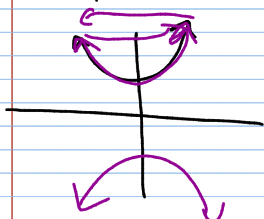
Vocabulary for Transforming Graphs:

TRANSLATIONS

⇒ slide either left or right (horizontal)
or up or down (vertical)

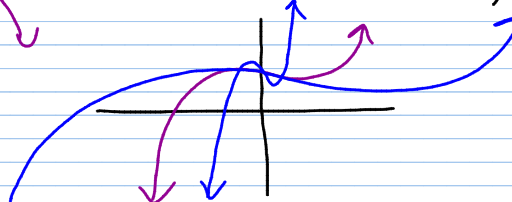


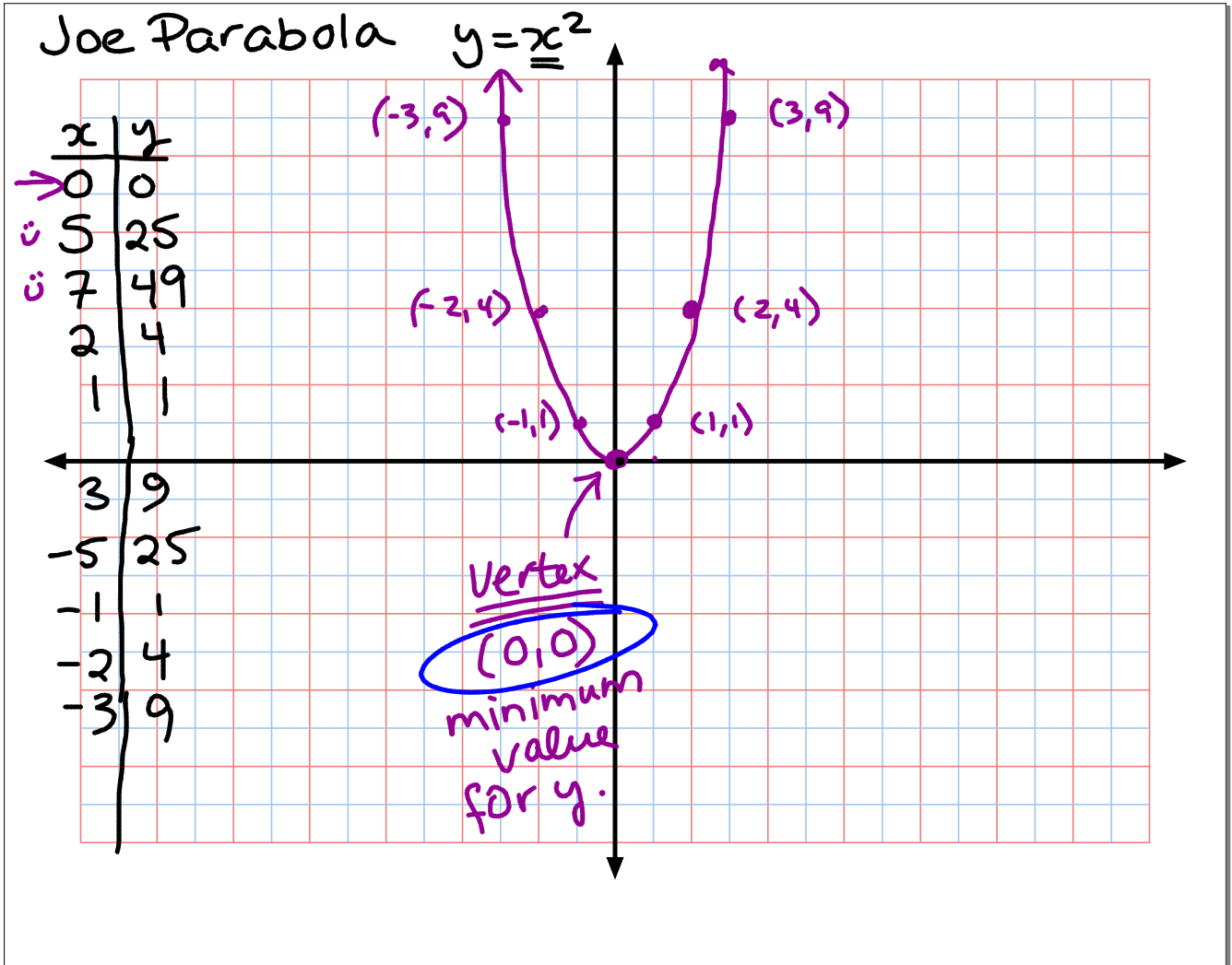
Reflection (flip)

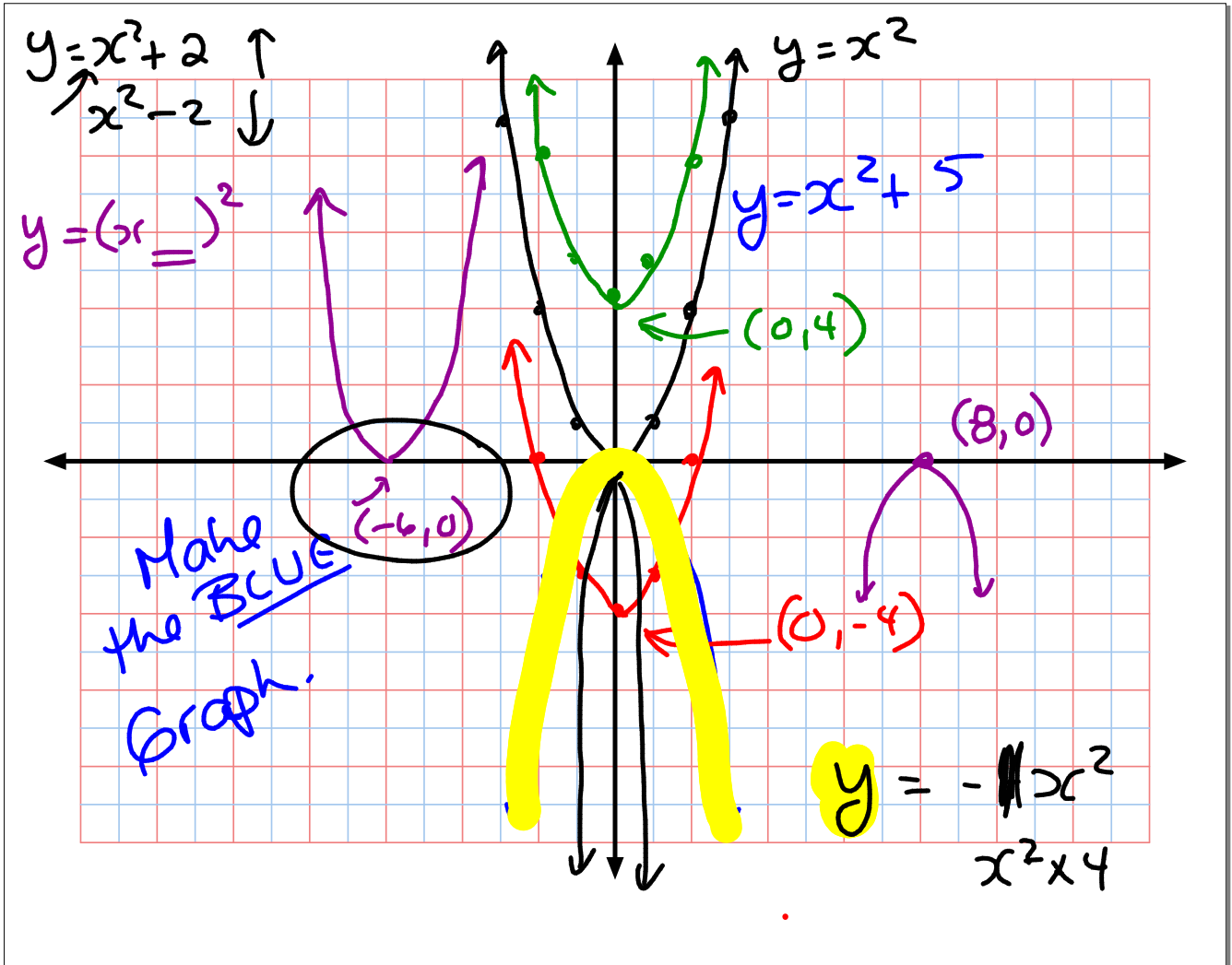


Compressions & expansions:

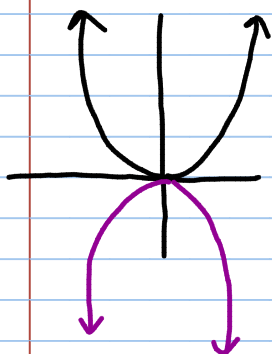
(stretches)





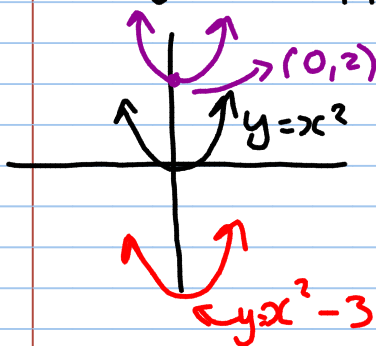


- Joe Parabola $y=x^2$ is the most BASIC quadratic fn.



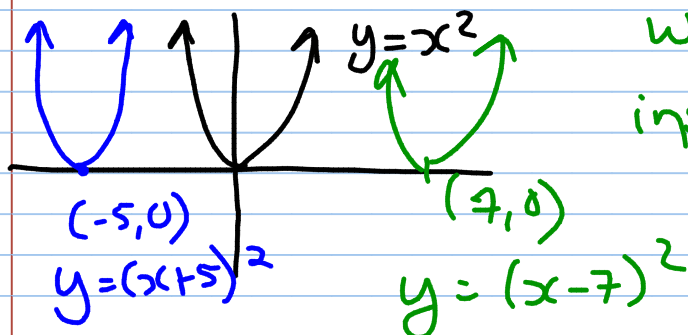
- To REFLECT Joe across the x-axis (make it open down instead of up) we multiply the x^2 by -1
 $y = -x^2$

- To move Joe up or down, we add or subtract the amount we want it moved



↑ means a vertical translation of 2 units UP.

- To move Joe LEFT, we ADD inside the bracket. To move Joe RIGHT



we SUBTRACT inside the bracket.

