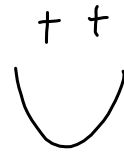


Quadratics Review

$$y = ax^2 + bx + c \quad (\text{standard form})$$

$a \neq 0$ for it to be a quadratic

$a > 0$, the parabola opens up



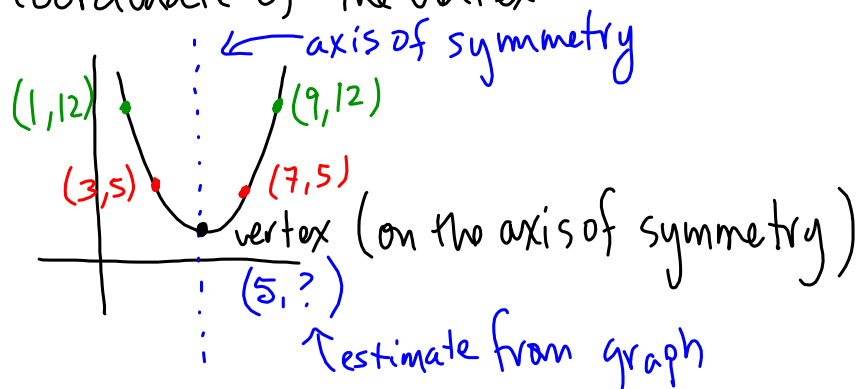
$a < 0$, the parabola opens down



b determines the location of the vertex

c is the y -intercept

- so far we can graph using a table of values or your graphing calculator
- use the symmetry of the y -values to find the x -coordinate of the vertex



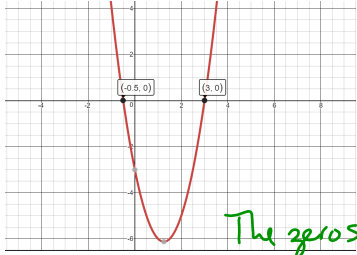
- the vertex is on the axis of symmetry and is halfway between two x -values that have the same y -value.
- $$\frac{x_1 + x_2}{2} = \text{x-coordinate vertex}$$

Solving Quadratics by Graphing

Method 1 → put the equation into standard form by setting it equal to zero

P 379

C4U/1a: $2x^2 - 5x - 3 = 0$



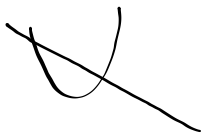
graph: $y = 2x^2 - 5x - 3$

and find the x-intercepts (zero)

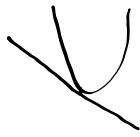
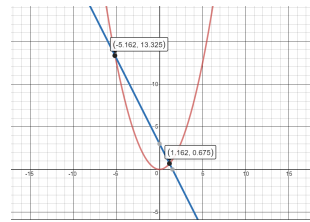
The zeros are $x = -0.5, x = 3$

Method 2 → Graph 2 functions (one for the LS and one for the RS)

C4U/2b $0.5x^2 = -2x + 3$
 LS RS



Graph $y_1 = 0.5x^2$
 $y_2 = -2x + 3$



Find the intersection points (x-coordinate)

To DO

- P380/5-13 (omit #11)
- Quiz Explore Learning Gizmo
- CC (Wed) → §7-1 to §7-3