

Review:

X-Intercept: where the graph crosses the x-axis so this means $y = 0$

Can be written as $x = \#$ or as an ordered pair: $(x, 0)$

Also called roots or zeros

Y-Intercept: where the graph crosses the y-axis so this means $x = 0$

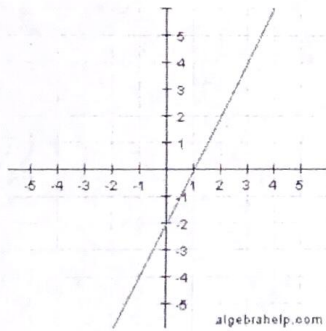
Can be written as $y = \#$ or as an ordered pair: $(0, \#)$

Find the x-intercept and y-intercept of the following equations:

1. $10x + 5y = -20$

2. $Y = -3x + 5$

3. Find the x-intercept and y-intercept of the following graph:



Slope also known as rate of change: Symbol is $m = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise (how far you count up or down)}}{\text{run (how far you count left or right)}}$

Find the slope of the following

1.

2. $(-4, -8) (-4, 9)$

3. $(2, 7) (-3, 7)$

4. Find the slope of the above graph

x	y
-2	7
0	14
2	21
4	28

Vertex Form $y = a(x - h)^2 + k$

Step 1: Label a (number in front of the parenthesis),

H (number inside the parenthesis),

k (number after the parenthesis)

Step 2: Tell if graph opens up (smiling) or down (frowning)

$A > 0$ (positive) opens up; $A < 0$ (negative) opens down

Step 3: Find *Axis of Symmetry* $AOS = h; x = h$

Step 4: Plot the vertex which is (h, k) . If it opens up, then the vertex is a min (lowest point on the graph).
vertex is a max (highest point on the graph)

Step 5: Make a T-chart. Vertex

should be in the middle of the T-chart.

Using the TI-36 XPRO, go to table & scroll

to option 2: Edit function. Hit Enter. Type

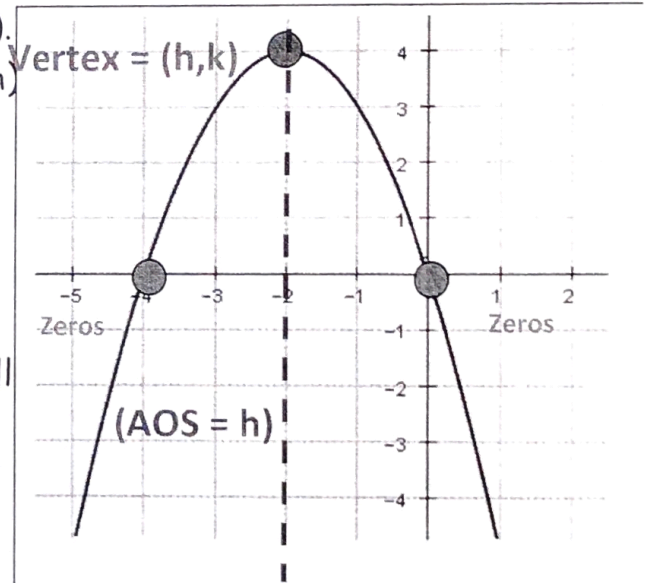
in the equation. Hit Enter & make the

start value -10 & hit enter until T-Chart

shows. Remember the points are mirror images.

Quadratics form an u-shaped curve called a parabola

Vertex:
Where the parabola changes directions—



x	y

Examples:

1. $Y = 2(x - 1)^2 + 3$

$a = \underline{\quad}$ $h = \underline{\quad}$ $k = \underline{\quad}$

Opens: up or down

Vertex: $\underline{\hspace{2cm}}$

Max or Min: $\underline{\hspace{2cm}}$

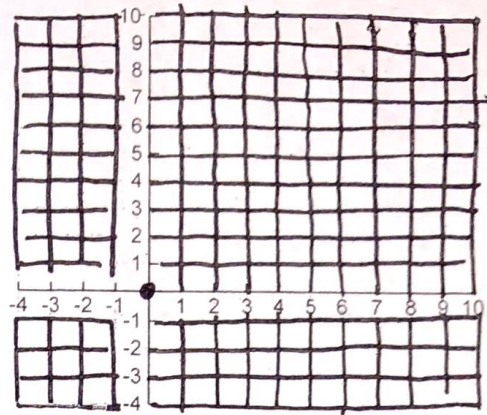
Axis of symmetry: $\underline{\hspace{2cm}}$

X-Intercept: $\underline{\hspace{2cm}}$

Y-Intercept: $\underline{\hspace{2cm}}$

Rate of Change from $x = 1$ to $x = 3$

x	y



2. $Y = -(x + 3)^2 + 1$

$a = \underline{\quad}$ $h = \underline{\quad}$ $k = \underline{\quad}$

Opens: up or down

Vertex: $\underline{\hspace{2cm}}$

Max or Min: $\underline{\hspace{2cm}}$

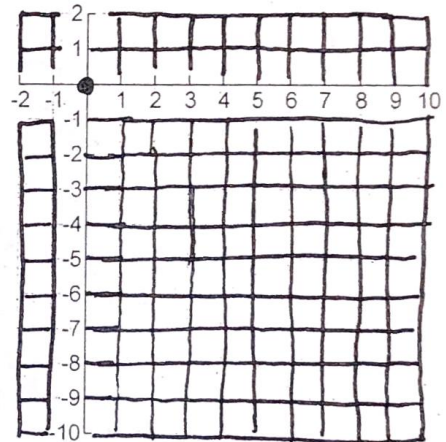
Axis of symmetry: $\underline{\hspace{2cm}}$

X-Intercept: $\underline{\hspace{2cm}}$

Y-Intercept: $\underline{\hspace{2cm}}$

Rate of Change from $x = 5$ to $x = -2$

x	y



3. $Y = 2(x + 2)^2$

$a = \underline{\quad}$ $h = \underline{\quad}$ $k = \underline{\quad}$

Opens: up or down

Vertex: $\underline{\hspace{2cm}}$

Max or Min: $\underline{\hspace{2cm}}$

Axis of symmetry: $\underline{\hspace{2cm}}$

X-Intercept: $\underline{\hspace{2cm}}$

Y-Intercept: $\underline{\hspace{2cm}}$

Rate of Change from $x = 1$ to $x = 0$

x	y

