

### Group A Quadratics #3



- 1.) Open the “Khan Academy” app on the ipad.
- 2.) Click on “Algebra”
- 3.) Click on “Graphing Quadratics”. BEFORE CONTINUING, ANSWER QUESTIONS1 BELOW.

QUESTION 1: FACTOR  $Y = X^2 - 2X - 8$

- 4.) Click on “Graphs of Quadratic Functions”  
YOU NEED TO HAVE HEADPHONES!
- 5.) WHEN STARTING THE VIDEO, START AT **1:20**
- 6.) Check the factored form in question 1. If incorrect, **FIX!**
- 7.) **Follow along with the video**, showing all work below, to find the x intercepts.

Question 2: Find the x intercepts (also known as roots or zeros) of  
 $Y = X^2 - 2X - 8$

- 8.) **Follow along with the video**, showing all work below, to find the vertex.

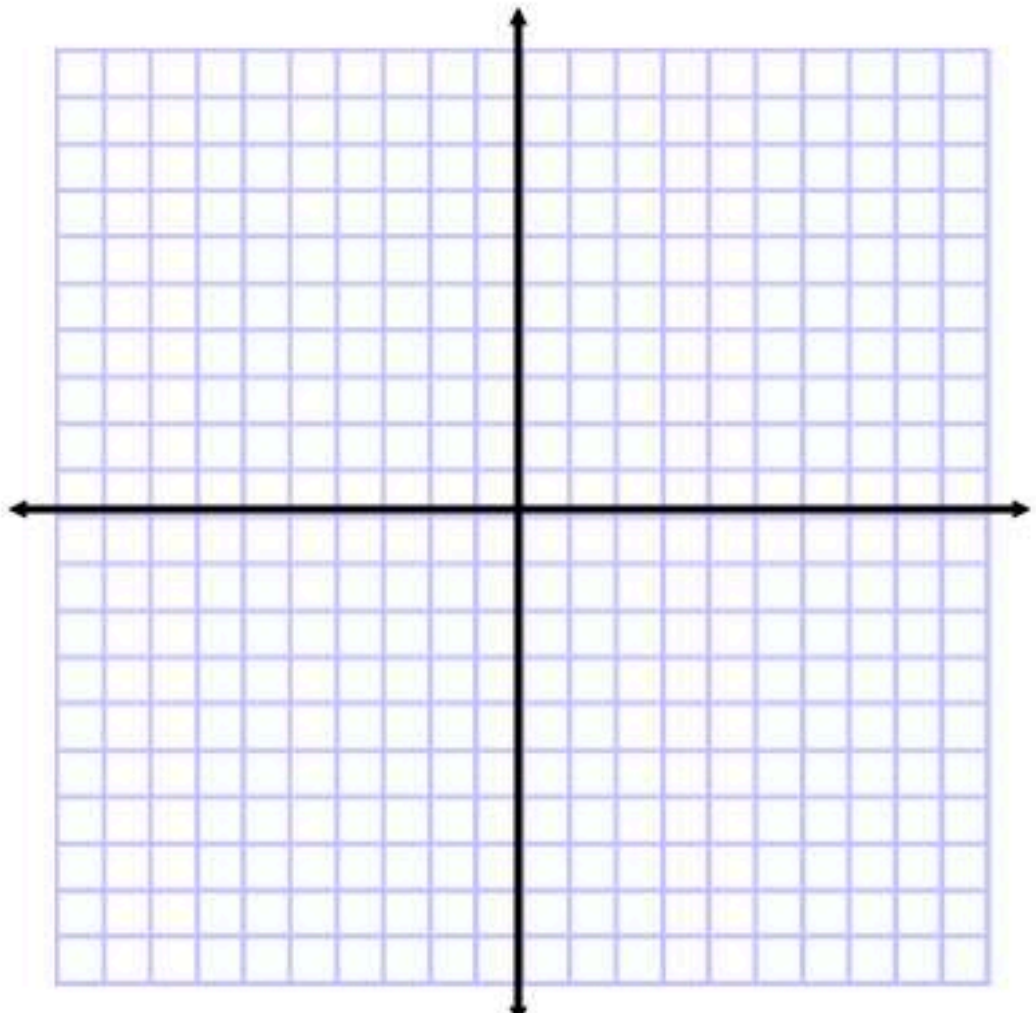
Question 3: Find the vertex of  $Y = X^2 - 2X - 8$

9.) **Follow along with the video** to find the y-intercept. The video does not show work for this, so LISTEN!

Question 4: Find the y intercept of  $Y = X^2 - 2X - 8$ . SHOW work.

Question 5. Graph the parabola below, **label** the the x intercept, y intercept, and vertex on the graph.

Once you have **checked** your graph with the video, **PAUSE** the video and try to problem on the next page ONE YOUR OWN. Refer back to this example if you get stuck.



### **Group A Quadratics #4**

**Answer the questions below in order to Graph**  $Y = 2X^2 + 6X + 4$ .

QUESTION 1: FACTOR  $Y = 2X^2 + 6X + 4$ . Factor the GCF first, then factor what remains. THEN CHECK THE VIDEO BEFORE MOVING TO QUESTION 2.

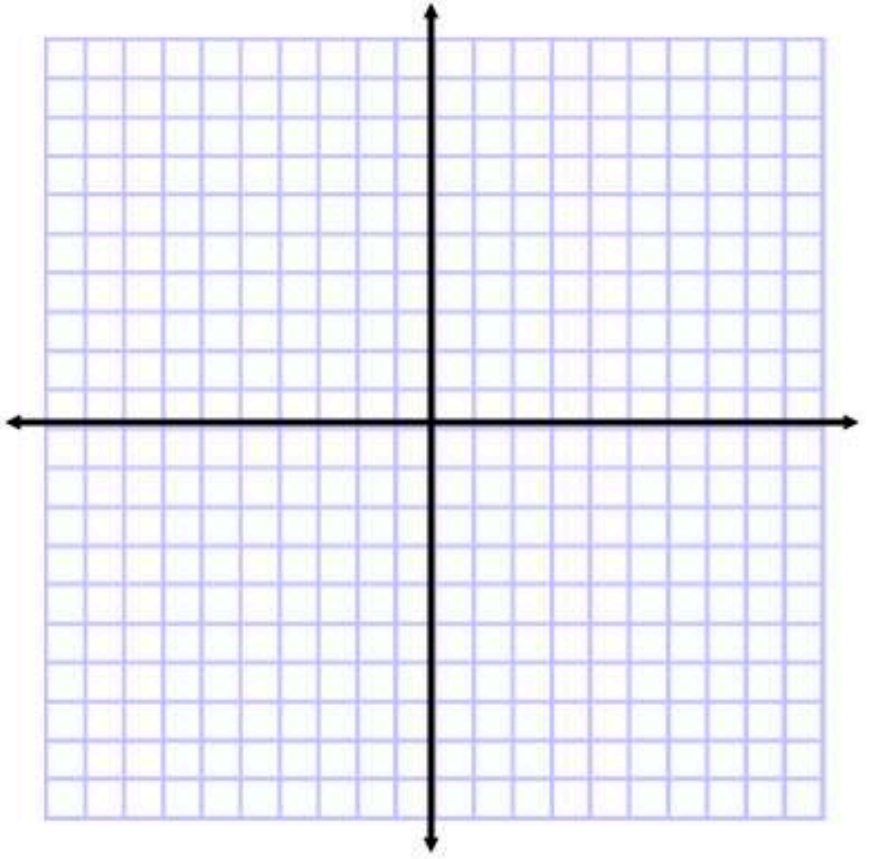
Question 2: Find the x intercepts (also known as roots or zeros) of  
 $Y = 2X^2 + 6X + 4$ .

Question 3: Find the vertex of  $Y = 2X^2 + 6X + 4$ . DECIMALS ARE okay to get.

Question 4: Find the y intercept of  $Y = 2X^2 + 6X + 4$ . SHOW work.

**RESUME the video and check questions 1-4.**

Question 5. Graph  $Y = 2X^2 + 6X + 4$  below, **label** the the x intercept, y intercept, and vertex on the graph.



**Question 6: Give me one example or illustration of way parabolas or quadratic equations could be used in real life. RESEARCH ON THE INTERNET IF YOU CAN'T THINK OF ONE YOUR OWN. THESE NEED TO BE DIFFERENT FROM THE EXAMPLES YOU USED ON QUADRATICS# 1 AND #2.**

### Group A Quadratics #5

Answer the questions below in order to Graph  $Y = -X^2 + 10X - 21$ .

QUESTION 1: FACTOR  $Y = -X^2 + 10X - 21$ .

THEN CHECK THE VIDEO BEFORE MOVING TO QUESTION 2.

Question 2: Find the x intercepts (also known as roots or zeros) of  
 $Y = -X^2 + 10X - 21$ .

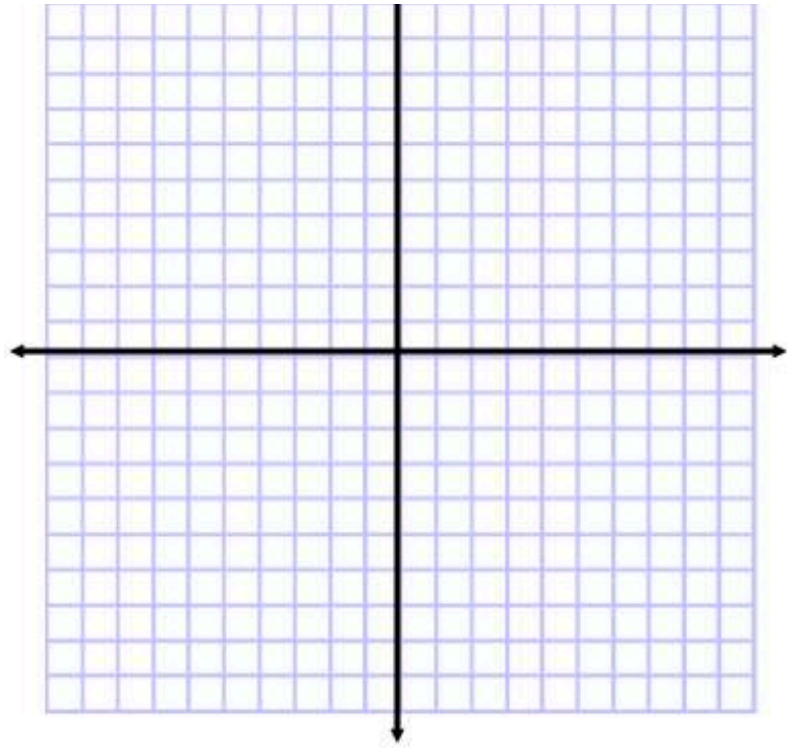
Question 3: Find the vertex of  $Y = -X^2 + 10X - 21$ .

Question 4: Find the y intercept of  $Y = -X^2 + 10X - 21$ . SHOW work.

**RESUME the video and check questions 1-4.**

Question 5. Graph  $Y = -X^2 + 10X - 21$  on the next page. **Label** the the x intercept, y intercept, and vertex on the graph.

Question 6: What is the MAIN DIFFERENCE between this EQUATION and the previous 2 equations?



Question 7: What is the MAIN the previous 2 GRAPHS?

Question 8: WHAT CONCLUSIONS can you make about how “a” affects the graph?

**FOR 9-10, RESEARCH on your own, if you are not sure what word goes in the blank space.**

Question 9: When the vertex is the LOWEST point on the graph, the vertex can also be called the \_\_\_\_\_.

Question 10: When the vertex is the HIGHEST point on the graph, the vertex can also be called the \_\_\_\_\_.