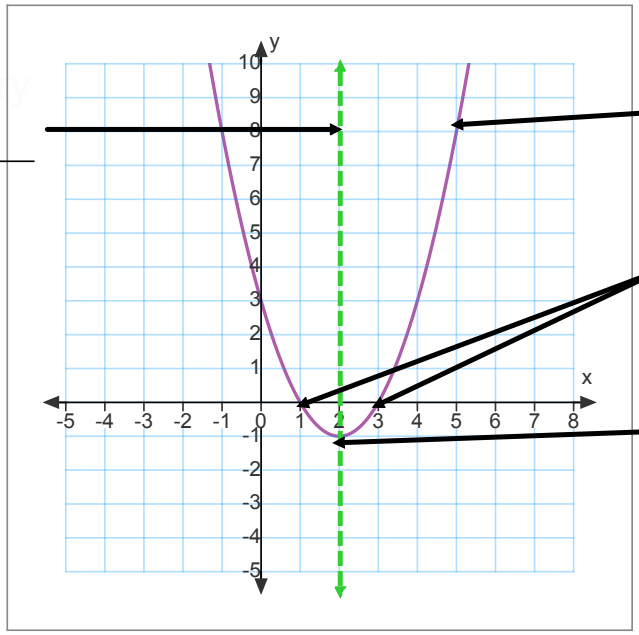
Unit 4: Graphing Quadratic Relations

Day 7: The Role of Zeros Day 2

Today we will....

1. Determine the equation of a parabola given the values of a, s, and t.
2. Determine the equation of a parabola given the zeros and a point on the graph.
3. Solve real-life applications using the key points on a parabola.

Recall.....



- opening _____
- optimum value _____ occuring at _____
- maximum or minimum _____

A quadratic relation is said to be in factored form if it appears in the form _____

If $a > 0$, the parabola opens _____ and has a _____

If $a < 0$, the parabola opens _____ and has a _____

EXAMPLES

1. What is the equation, in factored form, of the parabola with zeros 4 and -7 with $a = -7$?

2. The zeros of a parabola are -2 and 7 and it crosses the y-axis at -28.

a) State the equation of the axis of symmetry.

b) What is the equation, in factored form, of the quadratic relation?
(Hint: You need to find the value of a)

c) What are the coordinates of the vertex?
(Use the x-value from the axis of symmetry and substitute to find the y-value)

2. Find the equation of the parabola with zeros are 6 and 10 and passing through (1, -15).

Skills Practice:

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