

Unit 3 TEST OUTLINE: Quadratic Relations

Properties of parabolas, Factored Form, Transformation, Vertex Form

K	A	T	C
10	10	10	10

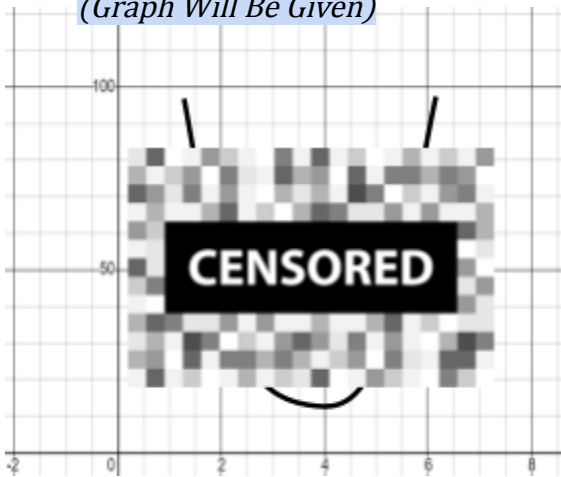
Show all work in an organized process for full marks. Only use space provided.

Knowledge [10 Marks]

1. Identify all the properties of the following parabola

[3 Marks; 0.5 Mark/property]

(Graph Will Be Given)



Direction		Vertex	
x-intercept(s)		AoS	
y-intercept		Optimal Value	

2. For a given quadratic relation in vertex form

a. Describe the transformation

[3 Marks]

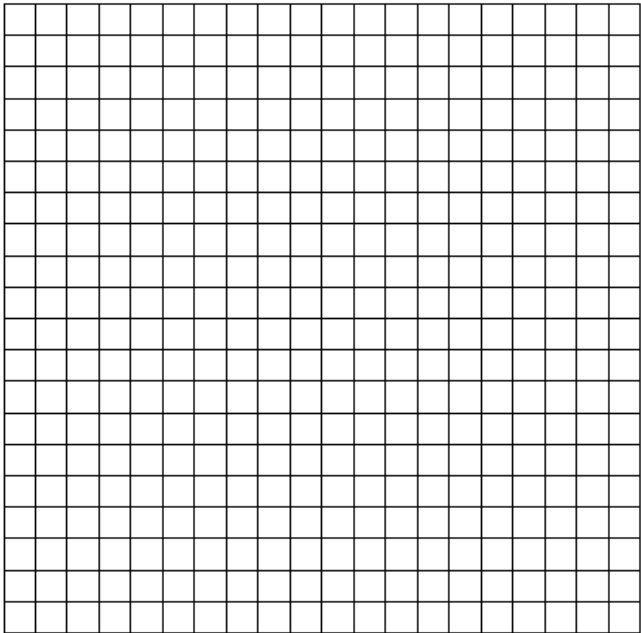
☐ Described 1 Transformation

☐ Described 2 Transformations

☐ Described 3 Transformations

b. Sketch the the quadratic relation

[4 Marks]



☐ Showed work to interpret relation

☐ Plotted 5 correct points

☐ Sketched a parabola

☐ Sketched a correct parabola

Application [10 Marks]

3. **Write** quadratic equations, **in standard form** given the following information: [3 Marks]

a. *Criteria 1 - zeroes/vertex/points/transformations*

b. *Criteria 2 - a point*

- ☐ Set up factored/vertex form
☐ Determined "a" value
☐ Correct standard form

4. **Algebraically** determine the properties for *a given quadratic relation in **standard form***
(Show all your work for full marks!) [7 Marks; 3 Marks for work, 0.5 Mark/property]

Direction		Number of zeros / x-intercepts		AoS		Vertex	
y-intercept		x-intercept(s)		Optimal Value		Step Pattern	

Thinking [10 Marks]

5. Given a Table of Values, determine an equation in One of the 3 forms form [5 Marks]

X	Y
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- ☐ Showed work interpreting data
- ☐ Determined AoS
- ☐ Determined Optimal Value
- ☐ Determined stretch factor
- ☐ Correct Vertex Form

Evidence of THINKING throughout test

☐ I can determine the known in the problem

☐ I can determine the unknown in the problem

☐ I can select one or more strategy(ies) related to topics we have covered

☐ I can make connections to prior knowledge and skills

☐ I can determine whether or not an answer is reasonable

[5 Marks]

Communication [10 Marks]

6. Describe/discuss *concepts related to graphing quadratic relations*

[5 Marks]

- a. *Review how to graph given different forms of quadratic relations*
- b. *Review how to identify properties*
- c. *Do your homework!*

- ☐ Point #1
- ☐ Point #2
- ☐ Point #3
- ☐ Point #4
- ☐ Point #5

COMMUNICATION throughout test

[5 Marks]

- ☐ I can use correct mathematical terminology
- ☐ I can support my mathematical thinking with evidence through my written work
- ☐ I can use proper mathematical notation and convention (ie. vertical work, symbols, etc)
- ☐ I can write clear solutions (Labeled equations and steps can be followed in order)
- ☐ I can write a concluding/therefore statement for my answers