

First & Last Name: _____ Period: _____ ID: A

Directions: Show all thinking for maximum credit. You may use a non-graphing calculator on this test. “Tell the truth - all the time!”

FFPC Unit Practice Test Algebra 8r (Mazzeo 2013)

1. Find the key features for the graph of $y = x^2 + 4x - 12$. Show or explain how each is found. (worth 30 points)

y-intercept:

line of symmetry:

x-intercepts:

2 shaping points

vertex: (10 points)

x		
y		

.

2. Write the expression in expanded form: $(5x + 3y)^2$

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3. Solve by factoring.: (10 points each)

a.) $5y^2 - 18y = -9$

b.) $12w^2 + 36w = 0$

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4. A signal flare is fired into the air from a boat. The height h of the flare in feet after x seconds is
 $h = -16x^2 + 96x$

a. How high will the flare travel? When will it reach this maximum height? (10 points)

b. When will the flare hit the water? Briefly explain.

5. Factor the following expressions completely if possible. If not possible, then write prime and explain how you know. (5 points each)

a.) $x^2 - 9x + 20$

b.) $4x^3 - 400x$

c.) $12x^2 + 11x - 15$

d.) $a^2 + 2ab + b^2$

.

6. For this problem, use the equation $y = -2x^2 + 3x - 1$.
Complete this table, then show 1st and 2nd differences, and finally make any conclusions based on the differences. (10points)

x	0	1	2	3	4	5
y						

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