Algebra 1 Name KEY ID: 1

Practice Quiz 10.6 (Proficiency Standard - ALG.F)

Date _____

ALG.f.1

For #'s 1-6, determine the quadratic equation in standard form.

a) Identify the quadratic equation in standard form by circling the qustion number.

b) Explain your selection:

#4 IS IN STANDARD FORM BECAUSE IT IS WRITTEN $Ax^2+Bx+C=0$.

1) $4x^2 - 12 = 4$

2) $x^2 - 20x = 44$

3) $0 = x + y - 4$

4) $-11x^2 + 11x - 8 = 0$

5) $y = -x^2 - 8x - 15$

6) $y = -5x - 3$

ALG.f.2

Rewrite a quadratic equation into standard form. Clearly show your work. Circle your answer.

7) $-7n^2 + 3 = 9n - n^2 + 15$

$+7N^2 \quad +7N^2$

$3 = 6N^2 + 9N + 15$

$-3 \quad -3$

$0 = 6N^2 + 9N + 12$

OR

$0 = -6N^2 - 9N - 12$

ALG.f.3
(a) Rewrite a quadratic equation into standard form.
(b) Then use the quadratic formula to solve for real solutions.
(c) Clearly show your work!! Round solutions to 2 decimals. Circle your answer.

8) $-2x^2 + 16 = 4x$

$-4x \quad -4x$

(a) $-2x^2 - 4x + 16 = 0$

(b) $A = -2 \quad B = -4 \quad C = 16$

$$x = \frac{4 \pm \sqrt{16 - 4(-2)(16)}}{2(-2)}$$

$$x = \frac{4 \pm \sqrt{144}}{-4} \leftarrow \text{Perfect SQ (12)}$$

$$x = \frac{4+12}{-4} \qquad x = \frac{4-12}{-4}$$

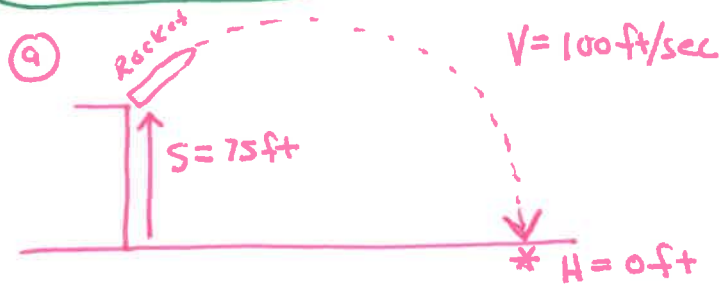
$x = -4$ $\qquad$ $x = 2$

C: $-16 = -16$ ✓ $\qquad$ C: $8 = 8$ ✓

ALG.f.4
For the following word problem:
(a) Sketch and label the graph. Include units and label the variables.
(b) Write the model for height as a function of time using function notation.
(c) Use the quadratic formula to solve. Clearly show your work!!
Round solutions to "ONE DECIMAL". Circle your solutions.
(d) Answer question in a complete sentence.

9) A rocket is launched from atop a 75 ft cliff with an initial vertical velocity of 100 feet per second. how long after the rocket is launched will it hit the ground?

(a)



(b) $h(t) = -16t^2 + 100t + 75$

(c) $A = -16 \quad B = 100 \quad C = 75$

$$t = \frac{-100 \pm \sqrt{10000 - 4(-16)(75)}}{2(-16)}$$

$$t = \frac{-100 \pm \sqrt{14800}}{-32} \leftarrow \text{DO NOT ROUND}$$

$$t = \frac{-100 + \sqrt{14800}}{-32} \qquad t = \frac{-100 - \sqrt{14800}}{-32}$$

$t \approx 6.9$ $\qquad$ $t \approx -.7$

(d) The rocket hits the ground in about 6.9 seconds.