Algebra 1 Name KEY ID: 1

ALG.f Date _____ Period ____

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 THE FORM $Ax^2+Bx+C=0$

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) $y = -5x - 3$

Algebra 1 Name KEY ID: 1

ALG.f Date _____ Period ____

ALG.f.2

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

1) $3x^2 - 3 = -2x$

$+2x \quad +2x$

0

$3x^2 + 2x - 3 = 0$

2) $-3x^2 + 4x = 5 - 4x^2$

$+4x^2 \quad +4x^2$

$x^2 + 4x = 5$

$-5 \quad -5$

0

$x^2 + 4x - 5 = 0$

QE: $Ax^2+Bx+C=0$

Algebra 1 QF: $x=\frac{-B\pm\sqrt{B^2-4AC}}{2A}$ Name KEY ID: 1

ALG.f Date _____ Period ____

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.

1) $-9x^2-56=-2x+7-10x^2$

$+10x^2 \quad +10x^2$

$x^2-56=-2x+7$

$+2x \quad -7 \quad +2x \quad -7$

$x^2+2x-63=0$

$A=1$

$B=2$

$C=-63$

$x=\frac{-2\pm\sqrt{4-4(1)(-63)}}{2(1)}$

$x=\frac{-2\pm\sqrt{256}}{2}$

$x=\frac{-2+16}{2}$ $x=\frac{-2-16}{2}$

$x=7$ $x=-9$

C: $-497=-497$ ✓ C: $-785=-785$ ✓

2) $n^2-18n=-10$

$+10 \quad +10$

$N^2-18N+10=0$

$A=1$

$B=-18$

$C=10$

$x=\frac{18\pm\sqrt{324-4(1)(10)}}{2(1)}$

$x=\frac{18\pm\sqrt{284}}{2}$

$x=\frac{18+\sqrt{284}}{2}$ $x=\frac{18-\sqrt{284}}{2}$

$x\simeq 17.426$ $x\simeq .573$

$x\simeq 17.43$ $x\simeq .57$

C: $-9.94\simeq -10$ ✓ C: $-9.94\simeq -10$ ✓

Algebra 1 Vertical Motion Name KEY ID: 1

ALG.f $h(t) = -16T^2 + VT + S$ Date _____ Period ____

ALG.f.4

For the following word problem:

(a) Sketch and label the graph. Include units and label the variables. (Green)

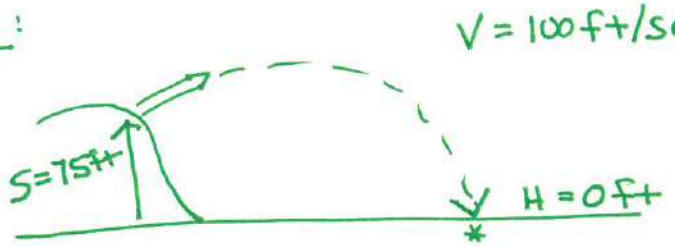
(b) Write the model for height as a function of time using function notation. (purple)

(c) Use the quadratic formula to solve. Clearly show your work!!
Round solutions to "ONE DECIMAL". Circle your solutions. (blue)

(d) Answer question in a complete sentence. (red)

1) 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?

KEY INFO:



MODEL: $h(t) = -16T^2 + 100T + 75$

SOLVE $0 = -16T^2 + 100T + 75$

$A = -16 \quad B = 100 \quad C = 75$

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

$$t = \frac{-100 \pm \sqrt{14,800}}{-32}$$

$$t = \frac{-100 + \sqrt{14,800}}{-32} \qquad t = \frac{-100 - \sqrt{14,800}}{-32}$$

$t \simeq -.67$ $\quad$ $t \simeq 6.92$

$\boxed{t \simeq -.7}$ $\quad$ $\boxed{t \simeq 6.9}$

The rocket will hit the ground in about 6.9 seconds