

Graded Classwork

Alg. Reg. Rev.#1 Sheet #1-3a

+15 pts (Solving Problems)

+5 pts (Effort)

20 pts.

$$\textcircled{2} y = \frac{\text{Pg. 2}}{(x-2)^2 - 7}$$

(35)
 Movie Rented
 $a_0 = 0$
 $a_1 = 172.25$
 $a_2 = 169.50$
 $a_3 = 166.75$

Movie left
 \$175
 172.25
 169.50
 166.75

-2.75
 -2.75
 -2.75

"A(n)"
 Arith. $d = -2.75$
 $a_1 = 172.25$
 $a_n = a_1 + d(n-1)$
 $a_n = 172.25 + (-2.75)(n-1)$
 $172.25 - 2.75n + 2.75$
 "A(n)" $= 175 - 2.75n$
 $0 = 175 - 2.75n$

Algebra Regents Review #1

- (1) Find the average rate of change of $f(x) = -x^2 - 4x + 1$ for $[-7, -3]$.

Speed/Slope

$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

x	y
$(x_1) -7$	(y_1)
$(x_2) -3$	(y_2)

$$\frac{\Delta d}{\Delta t} = \frac{33 - 5}{5 - 0} = \frac{28 \text{ ft}}{5 \text{ sec}}$$

- (2) The width of a rectangle is 5 feet less than its length. If the area is 36 ft^2 , find the dimensions of the rectangle.

$$5.6 \text{ ft/sec}$$

- (3) (a) Find the roots of $f(x) = 2x^2 - 8x + 5 = 0$ by completing the square and check your answer by using the quadratic formula.

- (b) Derive the quadratic formula by completing the square on the standard form of a quadratic equation:

$$ax^2 + bx + c = 0$$