

Name \_\_\_\_\_  
Date \_\_\_\_\_

Advanced Algebra  
Unit 2: Families of Functions  
Homework #3

1. Given the function  $f(x) = 3x + 5$

$f(-10) = -25$

$f(7) = 26$

$f(\text{dog}) = 3\text{dog} + 5$

What is the y intercept of this function?  
 $5$   
 $3(0) + 5$

2. Given the function  $f(x) = \frac{2x+5}{x-3}$

$f(-10) = 1.15$

$f(7) = 4.75$

$F(\text{dog}) = \frac{2\text{dog} + 5}{\text{dog} - 3}$

What is the y intercept of this function?  
 $-\frac{5}{3}$

$\frac{2(0) + 5}{0 - 3}$

3. Use the functions  $f(x) = 3x - 4$  and  $g(x) = x^2 + 2$  to find the values

$f(7) = 17$

$g(5) = 27$

$f(-5) = -19$

$g(-3) = 11$

4. What family of functions does  $f(x) = 25 - .6x$  belong to?

Linear

$$y = mx + b$$

$$y = -0.6x + 25$$

m ↗      ↘ b

5. Consider the function  $f(x) = 3(x+1)^2 - 4$

$$f(5) \quad 104$$

$$f(n) \quad 3(n+1)^2 - 4$$

$$f(x+2) \quad 3(x+3)^2 - 4$$

$$3(x+2+1)^2 - 4$$
$$3(x+3)^2 - 4$$

6) If  $f(990) = 286$ , what is the ordered pair that you would graph on the coordinate plane?

x ↗      ↗ y

$$(990, 286)$$