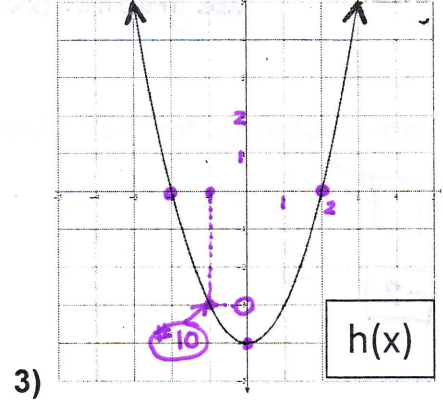
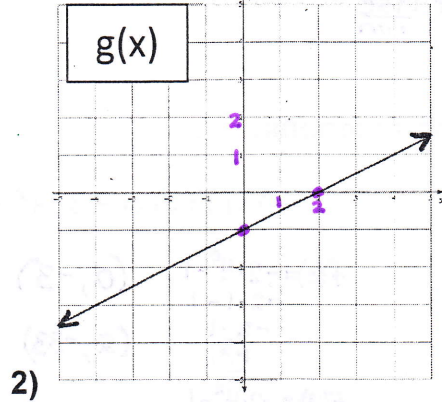
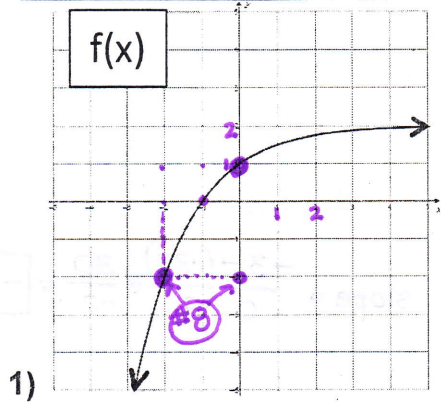


For each graph below, tell the following:

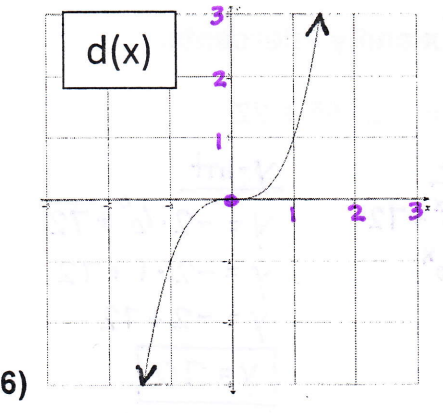
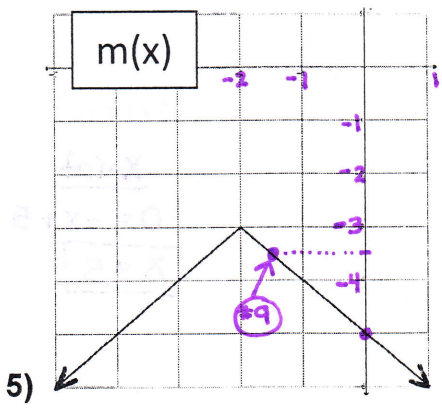
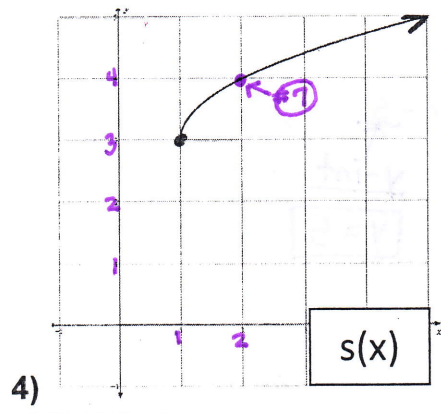
- |                       |                                       |                            |
|-----------------------|---------------------------------------|----------------------------|
| a. Domain/Range       | b. Increasing or Decreasing Intervals | c. Max/Min/None and where? |
| d. X and Y Intercepts | e. End Behavior on L and R            |                            |



- a. D: all real #s (R)  
R: all real #s (R)  
b. increasing: always (for all x-values)  
decreasing: never  
c. no min, max approaches 2  
d. x-int: -1 y-int: 1  
e. (y → -∞) or falls on left  
approaches 2 on right

- a. D: all real #s  
R: all real #s  
b. increasing for all x-values  
c. none  
d. x-int: 2 y-int: -1  
e. (y → -∞) or falls on left  
(y → ∞) or rises on right

- a. D: all real #s  
R: y ≥ -4  
b. decreasing when x < 0  
increasing when x > 0  
c. min. @ (0, -4)  
d. x-int: -2, 2 y-int: -4  
e. (y → ∞) or rises on left  
(y → ∞) or rises on right



- a. D: x ≥ 1  
R: y ≥ 3  
b. increasing for x > 1  
c. min. @ (1, 3)  
d. x-int: - y-int: -  
e. - on left  
(y → ∞) rises on right

- a. D: all real #s  
R: y ≤ -3  
b. increasing when x < -2  
decreasing when x > -2  
c. max. @ (-2, -3)  
d. x-int: - y-int: -5  
e. (y → -∞) falls on left  
(y → -∞) falls on right

- a. D: all real #s  
R: all real #s  
b. increasing for all x-values  
c. none  
d. x-int: 0 y-int: 0  
e. (y → -∞) falls on left  
(y → ∞) rises on right

Using the graphs in problems 1—6, answer each of the following:

4 7) Find  $s(2)$

-2 8) Find  $x$  when  $f(x) = -2$

$\approx -3.5$  9) Approximate  $m(x)$  when  $x = -1.5$

-3 10) Find  $h(-1)$

$\frac{3}{2}$  11) Rate of Change of  $f(x)$  over  $-2 \leq x \leq 0$

use graph... count  $\frac{\text{rise}}{\text{run}}$

Find the Rate of Change for the following functions.

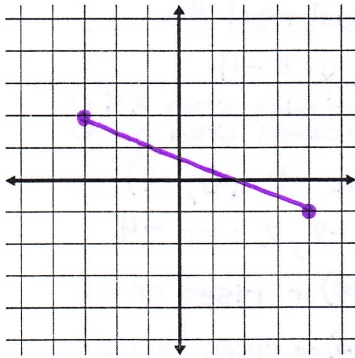
12)  $f(x) = -2x + 1$   $-5 \leq x \leq -2$

-2

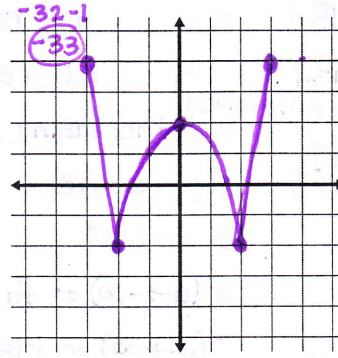
13)  $f(x) = -2 \cdot 4^x - 1$   $0 \leq x \leq 2$

$f(0) = -2 \cdot 4^0 - 1 = -2 \cdot 1 - 1 = -2 - 1 = -3$   $(0, -3)$   
 $f(2) = -2 \cdot 4^2 - 1 = -2 \cdot 16 - 1 = -32 - 1 = -33$   $(2, -33)$

slope =  $\frac{-3 - (-33)}{0 - 2} = \frac{30}{-2} = -15$  -15



Domain  
 $-3 \leq x \leq 4$   
Range  
 $-1 \leq y \leq 2$



Domain  
 $-3 \leq x \leq 3$   
Range  
 $-2 \leq y \leq 4$

14)

15)

Find the  $x$  and  $y$  intercepts.

16)  $f(x) = -2 \cdot 6^x + 72$

17)  $f(x) = -x + 5$

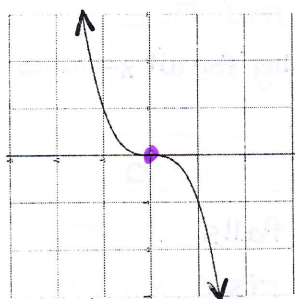
x-int  
 $0 = -2 \cdot 6^x + 72$   
 $-72 = -2 \cdot 6^x$   
 $36 = 6^x$   
 $x = 2$

y-int  
 $y = -2 \cdot 6^0 + 72$   
 $y = -2 \cdot 1 + 72$   
 $y = -2 + 72$   
 $y = 70$

x-int  
 $0 = -x + 5$   
 $x = 5$

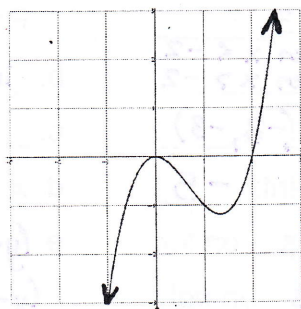
y-int  
 $y = 5$

Are the following even, odd, or neither?



18)

ODD



19)

NEITHER

20)  $f(x) = -2x^2 - 1$

21)  $f(x) = 6x^3$

$f(1) = -2(1)^2 - 1 = -2(1) - 1 = -2 - 1 = -3$

$f(-1) = -2(-1)^2 - 1 = -2(1) - 1 = -2 - 1 = -3$   
same, so EVEN

$f(1) = 6(1)^3 = 6 \cdot 1 = 6$

$f(-1) = 6(-1)^3 = 6(-1) = -6$   
opposites, so ODD