

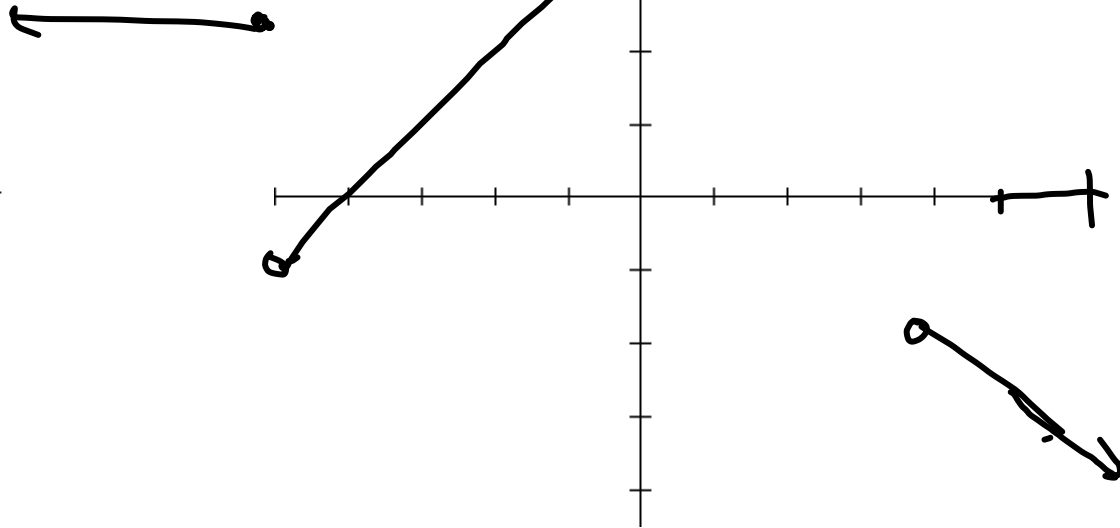
Problems to Work

1.
 - a. What is the domain of the relation $[(-2,-3), (-2,3), (4,7), (2,-8), (4,3)]$?
 - b. What is the range of the relation $[(-2,-3), (-2,3), (4,7), (2,-8), (4,3)]$?
 - c. Is the relation a function? Explain.
2. Find $f(4)$ for $f(x) = 7 - x^2$
3. If $g(x) = \frac{3}{x-1}$, what is $g(n + 2)$?
4. If $f(x) = \frac{1}{x-1}$ and $g(x) = x + 1$, find $[f \circ g](x)$ and $[g \circ f](x)$

Piece-wise Functions

Graph:

$$f(x) = \begin{cases} 2, & x \leq -5 \\ x+4, & -5 < x \leq 4 \\ -\frac{1}{2}x, & x > 4 \end{cases}$$



Also, use calculator.

$$\text{TI83: } y = (2)(x \leq -5) + (x + 4)(-5 < x)(x \leq 4) + ((-1/2)x)(x > 4)$$

$$\text{TI89: } Y1 = 0x + 2 \mid x \leq -5$$

$$Y2 = x + 4 \mid -5 < x \text{ and } x \leq 4$$

$$Y3 = (-1/2)x \mid x > 4$$

Federal Tax Brackets

Taxable Income	Federal Tax Rate
0 – 50,000	15%
50,001-75,000	25%
75,001-100,000	34%
100,001-335,000	39%

- 1) Graph the tax brackets for the different incomes.
- 2) What is the tax bracket for a corporation with a taxable income of \$90,000?

