Math 1050 PRACTICE Quiz (1.6-3.3)

1. Solve the following inequality and state the solution in interval notation AND graph your solution.

$$5 - |3 - x| < -8$$

2. Find the domain of: $f(x) = \frac{x+1}{\sqrt{x+4}}$

3. State the Domain and Range for the relation. Then determine whether the relation is a function.

$$\{(-1,-1), (0,0), (-1,1)\}$$

4. Let $f(x) = \frac{x-5}{x+3}$ and $g(x) = \frac{7}{x-5}$.

   a) Find and simplify $(f \cdot g)(x)$.

   b) Find and state the domain of $(f \cdot g)(x)$ in set notation.

5. Find the difference quotient $DQ = \frac{f(x+h)-f(x)}{h}$ for both of the following functions below. ONLY simplify ONE of your choosing.

   a) $f(x) = \sqrt{x-7}$

   b) $f(x) = \frac{1}{x+5}$

6. Determine algebraically whether the function is even, odd, or neither.

$$g(x) = \frac{x^3}{x^2+1}$$

7. Identify the increasing and decreasing intervals on the graph below: