Answers
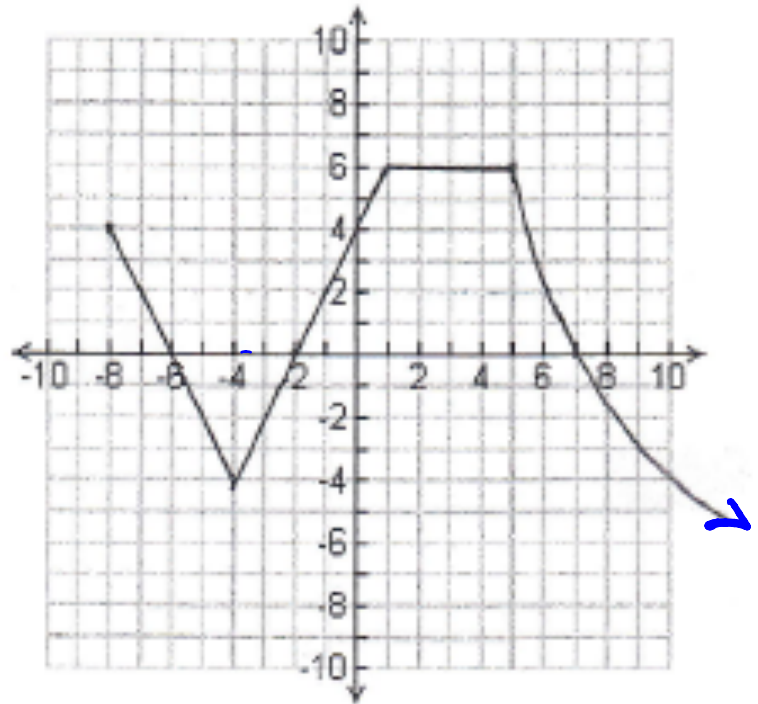
Properties of Functions

1. Domain: $[-8, \infty$

2. Range: $-\infty, 6]$

3. Zero(s): $\{-6, -2, 7\}$

4. Y-intercept: 4

5. Sign:

   a. Interval(s) over which f(x) is positive: $[-8, -6] \cup [-2, 7]$

   b. Interval(s) over which f(x) is negative: $-6, -2] \cup [7, \infty$

6. Variation_

   a. Interval(s) of increase: $[-4, 5]$

   b. Interval(s) of decrease: $[-8, -4] \cup [1, \infty$

7. Extrema (maximum or minimum **if they exist**): max: 6　　min: ϕ