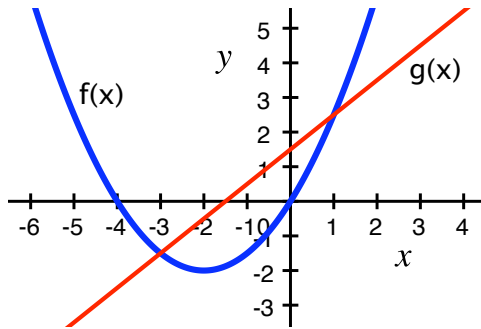


Show all work and answers on a separate sheet with a box around your final answer. No calculators.

1. The graphs of $f(x)$ and $g(x)$ are given below.



- (a) (2 pts.) For what x -values is $f(x) - g(x) = 0$?
- (b) (1 pt.) For what x -values is $f(x) - g(x) < 0$?
- (c) (1 pt.) Is $f(x) \cdot g(x)$ positive or negative at $x = -5$?

2. (3 pts.) Find a possible equation for a **power function** through the points $(1, 4)$ and $(3, 36)$.

3. (3 pts.) Match the following equations to the following graphs by writing the appropriate letter below the graph.

- a) $y = \frac{1}{2}x^5$ b) $y = \frac{3}{x}$ c) $y = 2\sqrt[3]{x}$ d) $y = -4x^7$ e) $y = 3x^6$ f) $y = \frac{3}{x^2}$

