

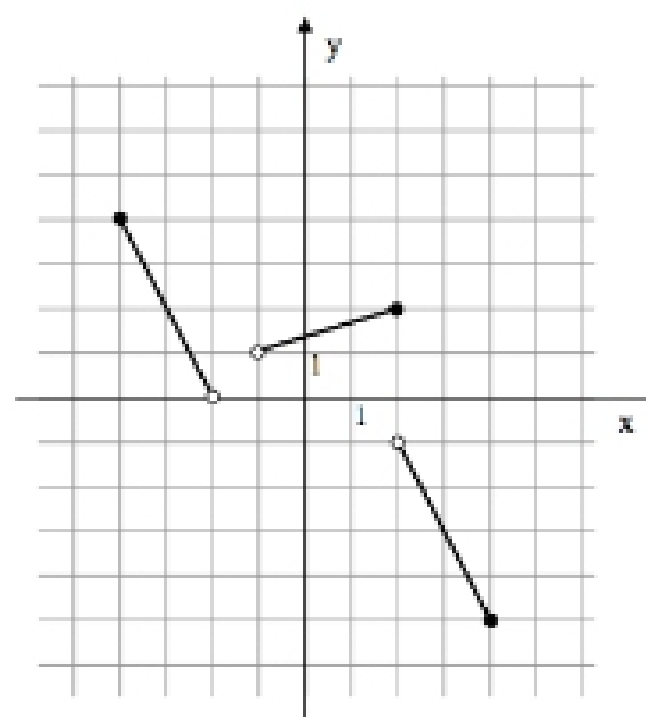
DUE Friday, September 26 at the beginning of class

1. Find the equation of the line using the information given

- (a) parallel to $6x + 9y = 27$, through the point $(-3, -5)$
- (b) perpendicular to $x - 4y = 7$, through the point $(-5, 3)$
- (c) parallel to $y = -3$, through the point $(2, 5)$
- (d) perpendicular to $y = -3$, through the point $(2, 5)$

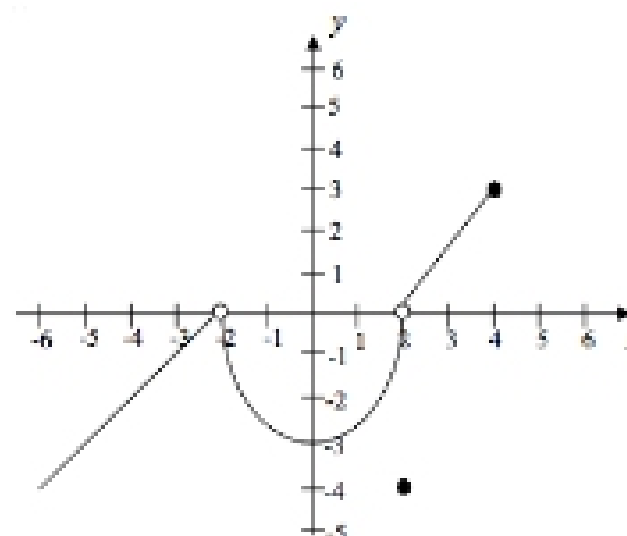
2. Use the graph of f to answer the following

- (a) Find the domain of f .
- (b) Find the range of f .
- (c) What is $f(-1)$?
- (d) Find all numbers, x such that $f(x) = 2$?



3. The graph of g is given at right

- (a) Find the domain of f .
- (b) Find the range of f .
- (c) What is $g(2)$?
- (d) Find all numbers, x , such that $g(x) = 0$.
- (e) Find all x such that $g(x) < 0$.



4. Determine whether the following functions are even, odd, or neither.

- (a) $f(x) = 2\sqrt[3]{x} - x^3$
- (b) $g(x) = 3|x| + 1$
- (c) $p(x) = \frac{3}{x}$

5. Given that $f(x) = \sqrt{2x - 5}$, $g(x) = \frac{2}{x + 2}$, and $h(x) = x^2 - 3$

- (a) Find $(f \circ g)(x)$
- (b) Find $(g \circ h)(x)$
- (c) Find $(h \circ h)(x)$
- (d) Find $(f + h)(3)$
- (e) Find $\left(\frac{h}{g}\right)(-1)$
- (f) Find $g^{-1}(1)$

6. For $h(x)$ defined as below, find two functions f and g such that $h(x) = (f \circ g)(x)$

- (a) $h(x) = \sqrt[3]{x^2 - 5} + 2$
- (b) $h(x) = \frac{1}{(x+7)^2} + 7$

7. Find the inverse of the given function

- (a) $f(x) = \frac{2x - 1}{5 - 3x}$
- (b) $g(x) = 3 + \sqrt[3]{5x - 7}$
- (c) $p(x) = \frac{(x + 3)^3}{-27}$