

## Functions Practice Problems

- 1] If  $g(x) = 5x - 10$ , then at what value of  $x$  does the graph of  $g(x)$  cross the  $x$ -axis? Ans: 2
- 2] For the function,  $f(x) = \sqrt{x^2 - 1}$ , which of the following values of  $x$ , make  $f(x)$  undefined? Ans: B  
a] -2    b] 0    c] 2    d] 1
- 3] If  $2x + y = -3$  and  $x + 2y = 18$ , then  $2x + 2y = ?$  Ans: 10
- 4] In the  $xy$ -plane, if a point with coordinates  $(a, b)$  lies in the solution set of inequalities below, what is the maximum possible value of  $b$ ?  
$$y \leq -10x + 2000$$
$$y \leq 40x$$
  
a] 40    b] 160    c] 320    d] 1,600
- 5] In the system of linear equations below, 'a' is a constant. If the system has no solution, what is the value of 'a'?  
$$\frac{1}{4}x - \frac{1}{2}y = 8$$
$$ax - 3y = 10$$
  
a]  $a = \frac{3}{2}$     b]  $a = \frac{2}{3}$     c]  $a = -\frac{2}{3}$     d]  $a = -\frac{3}{2}$
- 6] Using graphing calculator find the solution set for  
A]  $x^2 + y^2 = 234$  and  $x + y = 18$  (3, 11.5) (-1, -4.5)  
B]  $y = \frac{1}{2}x^2 + 3x - 2$  and  $y = 4x - \frac{1}{2}$  (15, 3) (3, 15)
- 7] If  $(x, y)$  is a solution to  $x^2 + y^2 = 45$  and  $y = -2x$  then what is value of  $y^2$ ?  
Ans: 36