

Test Review Part 1 Special Functions and Linear Programing

_____ 1) Which of the following is an example of a constant function? choose all that apply)

- a. $f(x) = 3$ b. $x = 6$ c. $y = 3$ d. $y = x$

_____ 2) What is the difference in the graphs of $y = |x|$ and $y = |x - 5|$?

- a. The vertex slides to the right 5 units b. The vertex slides to the left 5 units
c. The vertex slides up 5 units d. The vertex slides down 5 units

_____ 3) What is another term for the greatest integer function?

- a. Step function b. Piecewise Function c. Identity Function d. Special Function

_____ 4) If $g(x) = \lfloor x - 4 \rfloor$, find $g(3.2)$

- a. -1 b. 0 c. -2 d. -0.8

_____ 5) Find the vertex of $f(x) = |x - 3|$

- a. (0, 3) b. (-3, 0) c. (3, 0) d. (0, -3)

Identify each function a C for constant, I for Identity, A for absolute value, G for greatest integer, and P for piecewise.

_____ 6) $f(x) = x$

_____ 7) $f(x) = 2|3x + 1| - 5$

_____ 8) $f(x) = \begin{cases} 2x+1 & x \geq 1 \\ \frac{1}{2}x-3 & x < 1 \end{cases}$

_____ 9) $f(x) = 5$

_____ 10) $f(x) = 2\lfloor x - 5 \rfloor$

Evaluate each given the following functions:

$f(x) = |2x| + 5$

$g(x) = 2\lfloor x - 2 \rfloor$

$h(x) = \begin{cases} 3x+2 & x \geq -2 \\ -\frac{3}{2}x-1 & x < -2 \end{cases}$

_____ 11) $f(3)$

_____ 12) $f(-5)$

_____ 13) $f(-10.5)$

_____ 14) $g(4.3)$

_____ 15) $g(-2.1)$

_____ 16) $g(15)$

_____ 17) $h(-2)$

_____ 18) $h(-10)$

_____ 19) $h(0)$

20) Identify the max and min of the feasible region using the objective function: $P = 2(x + y) - 5$

Vertices	$f(x, y) = x - y$	Max/Min

