MAT 115
Mr. Villegas

Name: _____
Date: _____

Review for Test 1

1) -2 |- 4 + 2x| = -16

1) x = -2 2) x = 6 and x = -2 3) x = 6 4) can't be solve

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2) **Given the relation** $R = \{(-2, 3), (a, 4), (1, 9), (0, 7)\}$**. Which replacement for *a* makes this relation a non-function?**

1) 2 2) 9 3) 7 4) 1

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3) Which tables below represent a function?

Table 1

Input x	Output y
−2	−3
−1	−1
0	1
1	3
2	5
3	7
4	9

Table 2

Input x	Output y
4	−2
1	−1
0	0
1	1
4	2
9	3
16	4

Table 3

Input x	Output y
−2	0.44
−1	0.67
0	1
1	1.5
2	2.25
3	3.37
4	5.06

Table 4

Input x	Output y
−2	−3
−1	−5
1	−1
1	−3
2	−10
3	−2
3	−8

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4) **What is the solution to the inequality** $7 - \frac{2}{3}x < x - 8$?

1) x > 9 2) x > - 3/5 3) x < 9 4) x < -3/5

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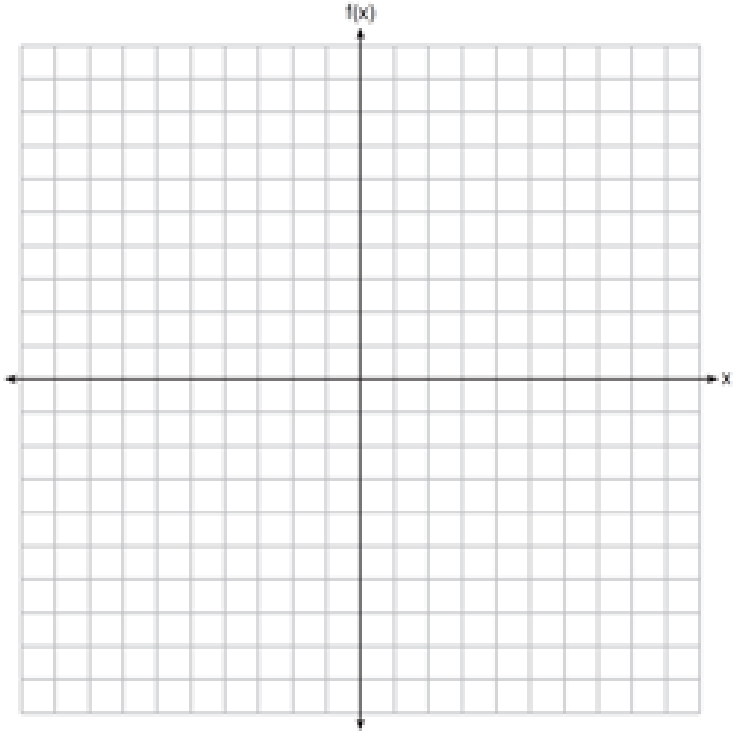
5) **What is the solution to** $|10 + 4x| \leq 14$?

1) -6 < x < 1 2) -1 ≤ x ≤ 6 3) x ≥ 1 or x ≤ -6 4) -6 ≤ x ≤ 1

6) **Graph the following function on the set of axes below.**

$$f(x) = \begin{cases} |x|, & -3 \le x < 1 \\ 4, & 1 \le x \le 8 \end{cases}$$



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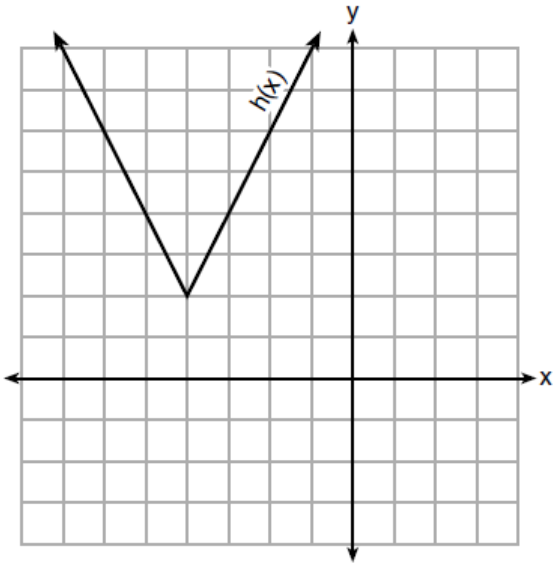
7) The parent function $h(x)$ is graphed below. Graph the function g(x) = | x - 2 | - 3 and determine the transformation that is taking place.



8) **Writing the slope intercept form of the equation of a line passing through the points (6, 0) and (-2, 4).**

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9) **Given $f(x) = 4x^2 + 5x$ and $g(x) = 2x^3 + x^2 - 5x + 1$ find the following and simplify.**

a) $f(-3)$ =

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b) $g(-2)$ =

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c) $\dfrac{g(x+h) - g(x)}{h}$

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d) **If you let h = 0, what do you get from your answer to part (c)?**

10) **Find the average range of change for the given interval.**

$y = -3x^3 + 2x^2, [-3, 2]$

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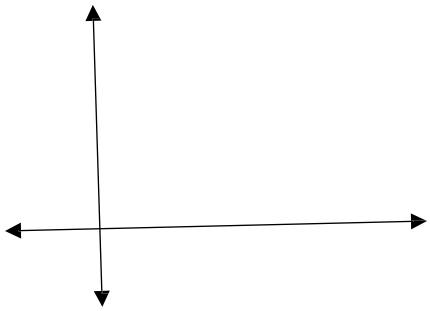
11) Suppose the quantity supplied S and quantity demand D of baseball hats are

S(p) = - 400 + 100p and D(p) = 2000 – 50p

a) **Graph these two functions.**



b) **Find the equilibrium price and equilibrium quantity.**

c) **Determine the prices for which the quantity demanded is higher than the quantity supplied.**

11) Solve for x and y using:

a) Elimination

$-7x + y = -19$
$-2x + 3y = -19$

b) Substitution

$x - y = 11$
$2x + y = 19$

c) Graphing

$-4x - 2y = -12$
$4x + 8y = -24$

12) The school that Stefan goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 3 senior citizen tickets and 1 child ticket for a total of $38. The school took in $52 on the second day by selling 3 senior citizen tickets and 2 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.