

Name:

Section:

Math 010: Intermediate Algebra
Fall 2011 : Exam 1A
Sections R2 – 2.2

Please circle or box your final answer. Show your work where appropriate (all problems except 3,4, 6 and 8 require work).

Questions 1-9 are short answer and are worth 5 points each.

1. Simplify: $-\frac{3}{4}(4-12x)-5(2x-4)$

2. Perform the indicated operations. $4^2-(5-2)^2 \cdot 3$

Problems 3 and 4 refer to the following graph:



3. Write the set in set builder notation:

4. Write the set in interval notation:

Problems 5 and 6 refer the equation $2(-5x-1)=2x-12x+6$

5. Solve and give the solution set to the equation. Use set notation.

6. Determine if the equation is a conditional equation, an identity or a contradiction.

Problems 7-9 use the points (4, -2) and (6, -8).

7. Find the slope of the line that connects the two points.

8. Give the slope of a line that is perpendicular to the line formed by the points above.

9. Find the midpoint of the line segment between the points.

Problems 10-12 are multiple choice. Please indicate your answer on the given line. Each problem is worth 5 points.

10. Solve for y: $3x-2y=4$

a. $y=\frac{3}{2}x+4$

b. $y=\frac{4}{3}x+2$

c. $y=\frac{3}{2}x-2$

d. $y=-3x+6$

Answer #10 : _____

11. Solve: $-1 < -2x + 4 \leq 5$

- a. $\left(-\frac{5}{2}, \frac{1}{2}\right]$
- b. $\left[\frac{5}{2}, -\frac{1}{2}\right]$
- c. $\left[-\frac{1}{2}, \frac{5}{2}\right)$
- d. $\left[-\frac{5}{2}, \frac{1}{2}\right)$

Answer #11: _____

12. Solve: $\left|\frac{x+3}{2}\right| - 2 \geq 4$

- a. $(-\infty, -15] \cup [9, \infty)$
- b. $[-15, 9]$
- c. $[-9, 15]$
- d. $(-\infty, -9] \cup [15, \infty)$
- e. No Solution

Answer #12: _____

Problems 13-17 are free response. Each problem is worth 8 points. You must use algebra and show all your steps to receive full credit.

13. Amanda borrowed \$6000 from two sources: her parents and a credit union. Her parents charged 3% simple interest and the credit union charged 8% simple interest. If after 1 year, Amanda paid \$255 in interest, how much did she borrow from her parents? How much did she borrow from the credit union? Include units.

14. Two angles are supplementary. One angle measures 12° less than 3 times the other. Find the measure of each angle. Include units.

15. Solve: $-\frac{3}{2}x + 6 \geq \frac{1}{3}x - 3$. Give the solution in interval notation.

16. Solve: $|2y - 3| - 8 = -5$

17. Consider the equation $3x - 2y = 8$

a. Find the x -intercept and write it as an ordered pair.

b. Find the y -intercept and write it as an ordered pair.

c. Using the points from above, graph the line.

