

Algebra 1

Practice Mid-term

Name _____

Date _____ Period _____

Reduce all fractions to simplest form. Round all decimal answers to two decimal places.

1. Evaluate: $\frac{a^2 - b^2}{2a - 3b}$ when $a = 6$ and $b = -3$ 1. _____

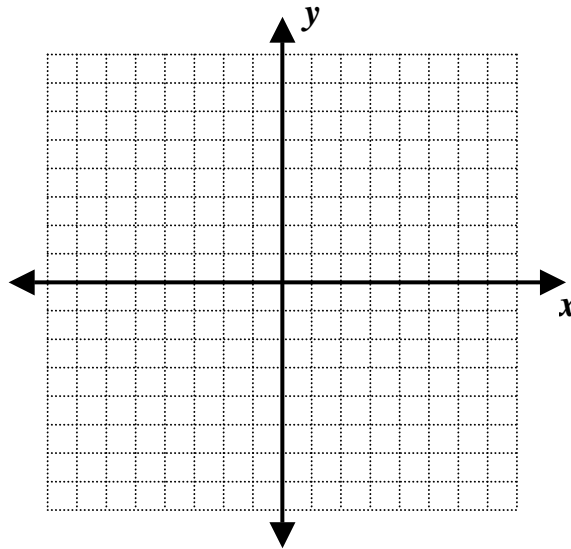
2. There are 320 8th grade students going on the Washington trip. The trip cost is \$250 per student. Everyone has paid at least a \$150 deposit. There are 140 students that have paid-in-full. How much money still needs to be collected? 2. _____

3. Subtract: $\begin{bmatrix} -4 & 6 \\ -6 & -10 \end{bmatrix} - \begin{bmatrix} -10 & -6 \\ 6 & 4 \end{bmatrix} =$ 3. _____

4. Find the product: $\left(-\frac{5}{14}\right)\left(\frac{2}{5}\right)\left(-\frac{3}{2}\right)\left(\frac{7}{6}\right)$ 4. _____

5. A line passes through point $(6, -2)$ and has a slope of $-\frac{3}{4}$.

a) Graph the line in the coordinate plane provided.



5a. (use graph)

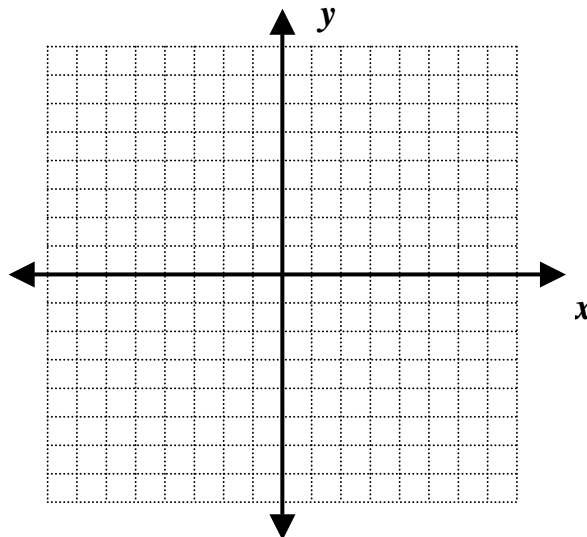
b) Write an equation in slope-intercept form.

5b. _____

c) Re-write the equation in standard form

5c. _____

6. Sketch the line given by $15x + 25y = 75$. Label the x - and y -intercepts.



6. (use graph)

7. The formula for the volume of a cylinder is: $V = \pi r^2 h$. Use this formula to write a formula for the height, h , of a cylinder. 7. _____
8. Simplify the expression: $\frac{35m + 65}{5}$ 8. _____
9. Write the equation of the horizontal line that passes through the point $(-9, 4)$. 9. _____
10. Find the slope and y-intercept of the line $7x + 2y = -9$. 10. _____
11. Find the slope of a line that passes through the points $(-8, 3)$ and $(-8, -8)$. 11. _____
12. Solve for y : $-8x + 5y = -20$ 12. _____
13. Solve the equation: $x(x-3) + 4 = x^2 - 8x - \frac{4}{3}$ 13. _____
14. Solve the equation: $-5(x-6) = (x-6)3$ 14. _____
15. Evaluate the expression: 15. _____
16. Solve for x : $3x + 17 - 5x = 12 - (6x + 3)$ 16. _____
17. Solve for y : $\frac{6y + 3}{4} - 7 = 0$ 17. _____
18. Solve for n : $4n - 2(3 - n) = -13$ 18. _____
19. Complete the table below: $y = -\frac{1}{2}x - 5$

(fill in table at left)

x	-6	-4	-2	0	2	4	6
y							

20. Find the rate of change between two points (10, 40) and (22, 220) and give the *unit of measure*. x is measured in hours; y is measured in miles. 20. _____

21. Identify the vertex of the graph: $y = |x - 3| + 2$ 21. _____

22. Evaluate the expression: $6c + 7 - |c - 12|$ when $c = -4$ 22. _____

23. Evaluate: $6[5^2 - 3(-6 + 12)] \div 3 + 3^2$ 23. _____

24.

25. The data below represents is from the I.M. Greedy Sales Company. Explain/interpret (compare/contrast) the graphs **BRIEFLY IN THE SPACE BELOW.**

