

**Test #1**

Name: \_\_\_\_\_

Math 51, Section 19, Prof. Beydler

Wednesday, September 24, 2014

**Directions:** Show all work. No books or notes. A **scientific calculator** is allowed. Your desk and lap must be clear (no phones, notebooks, etc.). Please box your answers. Good luck!

1. (2 points) Evaluate  $\frac{2y^2-x}{a+10}$  for  $x = 6$ ,  $y = -4$ , and  $a = 3$ .

2. (2 points) Evaluate  $4^2 - 8 \div |-6 + 4| \cdot (-2) + \sqrt{36 + 64}$

3. (2 points) Simplify:  $7 - 4[3 - (5y - 1)]$

4. (1 point) What is the coefficient of  $-\frac{x}{5}$ ?

5. (3 points) Solve:  $\frac{1}{4}(x + 1) = \frac{1}{6} + \frac{1}{3}(2 - x)$

6. (3 points) Solve:  $3x - (-2x + 6) = 4(x - 4) + x$

7. (3 points) Find two consecutive even integers such that the lesser added to three times the greater gives a sum of 46.

8. (2 points) Solve  $C = \frac{5}{9}(F - 32)$  for  $F$ .

9. (4 points) The longest side of a triangle is 1 in. longer than the medium side. The medium side is 5 in. longer than the shortest side. If the perimeter is 32 in., what are the lengths of the three sides?

10. (2 points) Solve the equation  $\frac{5x+1}{6} = \frac{3x-2}{3}$ .

11. (1 point) 32% of what number is 64?

12. (2 points) Anna saved \$1950, which was 65% of the amount she needed for a used car. What was the total amount she needed for the car?

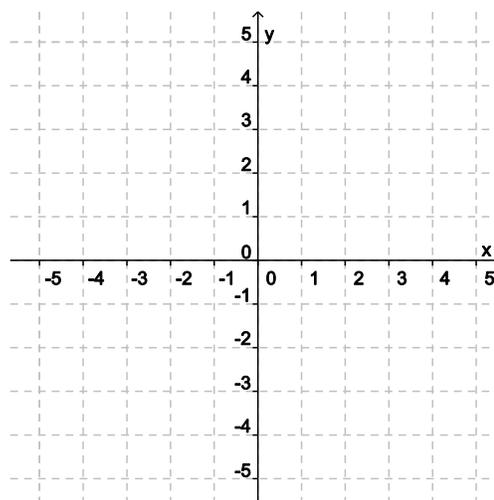
13. (4 points) A chemist needs to mix 20 L of a 40% acid solution with some 70% acid solution to obtain a mixture that is 50% acid. How many liters of the 70% acid solution should be used?

14. (3 points) Solve  $5(x - 3) - 7x > 4(x - 3) + 9$ , and graph the solution set. (Write your solution in interval notation.)

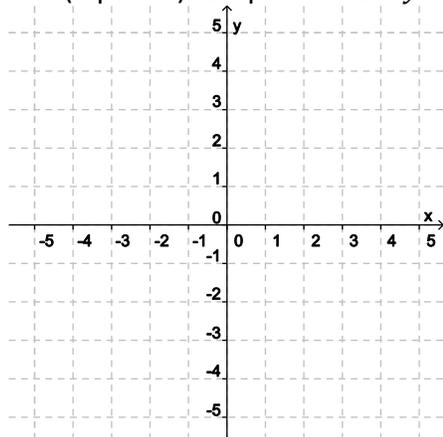
15. (2 points) Solve  $-3 \leq 2x + 1 \leq 4$ , and graph the solution set. (Write your solution in interval notation.)

16. (2 points) Complete the table of values for  $y + 2 = 0$ . Write the results as ordered pairs.

$x$	$y$	$(x, y)$
-1		
0		
2		



17. (2 points) Graph  $-3x + 2y = 6$ .



18. (1 point) Find the slope of the line passing through  $(-2, 4)$  and  $(-3, 7)$ .

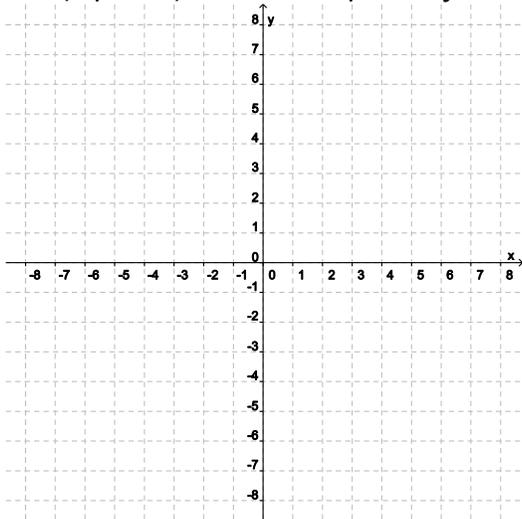
19. (1 point) Find the slope of the line passing through  $(-12, 3)$  and  $(-12, -7)$ .

20. (3 points) Determine whether the following pair of lines is parallel, perpendicular, or neither.

$$3x - 5y = -1$$

$$5x + 3y = 2$$

21. (3 points) Find the slope and y-intercept of the line  $y = -x + 5$ . Then graph the line.



22. (2 points) A line passes through the points  $(3, -2)$  and  $(1, 4)$ . Find an equation of the line in point-slope form.

23. (0 points) How many hours of sleep did you get last night? \_\_\_\_\_

Note: Be sure to double check your work. And don't forget to turn in your homework! 😊