Math 50, Fall 2004 Print Name _____
Exam #2, Chapters 4-5

Instructions: Show your work. Make sure you solve all word problems algebraically and show your work.

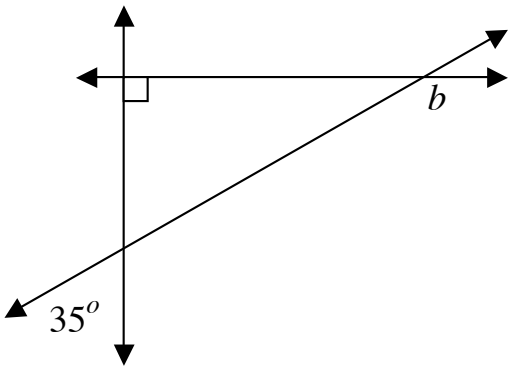
1. The sum of two numbers is 15. One less than three times the smaller is equal to the larger. Find the two numbers.

2. A soil supplement that weighs 24 pounds contains iron, potassium, and a mulch. There is five times as much mulch as iron and twice as much potassium as iron. Find the amount of mulch in the soil supplement.

3. Three times the smallest of three consecutive odd integers is five more than twice the largest. Find the largest integer.

4. A piggy bank contains 44 coins in quarters and dimes. The coins have a value of $8.60. Find the number of quarters in the bank.

5. Find the measure of angle *b*.



6. A car stereo that regularly sells for $425 is on sale for $318.75. Find the discount rate.

7. Suki made an investment of $2500 at an annual simple interest rate of 7%. How much additional money must she invest at 11% if the total interest earned is 9% the total investment?

8. An ice cream punch is made by combining fruit juice that costs $2.25 per gallon with ice cream that costs $3.25 per gallon. How many gallons of each were used to make 100 gallons of punch costing $2.50 per gallon.

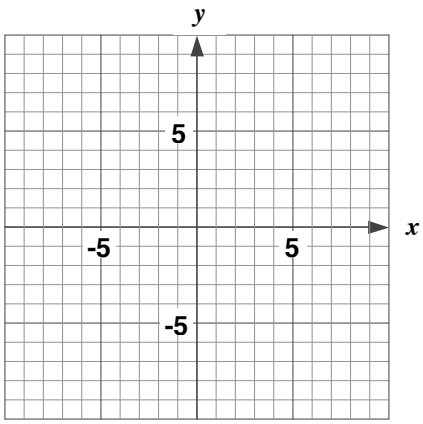
Show all work and circle all answers
Remember to solve the word problems algebraically.

9. How many ounces of pure chocolate must be mixed with 150 ounces of a chocolate topping that is 50 % chocolate to make a topping that is 75% chocolate?

10. A car traveling at 48 mph overtakes a cyclist who, riding at 12 mph, had a 3-hour head start. Both the driver and the cyclist start in the same place. How far from the starting point does the car overtake the cyclist?

11. Find the equation of the line that contains the point (-2, - 4) and has slope $\frac{2}{3}$.

12. Sketch the line that contains the point (-2, -4) and has slope $\frac{2}{3}$.



13. Find the slope of the line that contains the points (-21, -4) and (12, 15).

13. Find the x- and y-intercepts of $3x - 7y = -6$. (do not use decimal numbers)

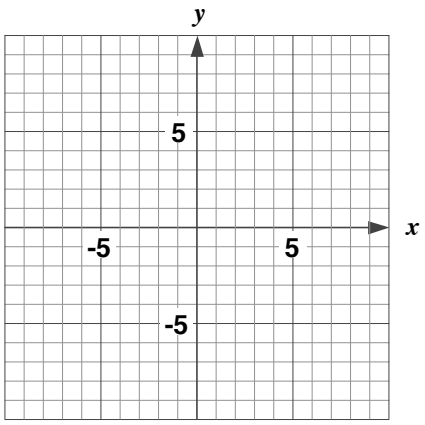
The x-intercept is

The y-intercept is

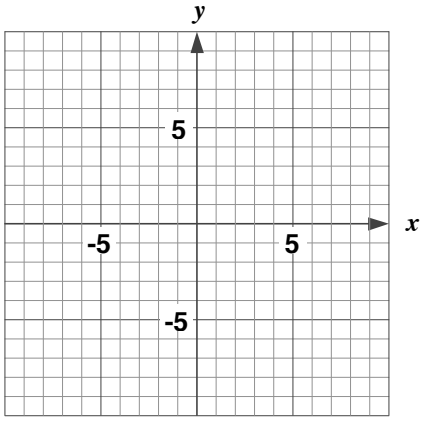
14. Find the ordered pair solution to $y = -\frac{3}{4}x + \frac{2}{3}$ corresponding to $x = \frac{-1}{3}$.

Show all work and circle all answers
Remember to solve the word problems algebraically.

15. Graph the solution set of $\frac{2}{5}x - y > 4$.



16. Graph $y = -\frac{3}{4}x + 5$ using the slope and y-intercept.



17. Circle TRUE is the statement is always true, otherwise circle FALSE.

TRUE FALSE The slope of a vertical lines is undefined.
TRUE FALSE Points plotted in quadrant 3 have a positive x value.
TRUE FALSE (3, 5) is a solution to $y = x + 2$.
TRUE FALSE The graph of the equation $y = 4$ is a horizontal line.
TRUE FALSE The graph of $x = 4$ has a y-intercept of (4, 0).
TRUE FALSE The y-intercept of the graph of $y = -2x + 5$ is (5, 0).
TRUE FALSE The slope of a vertical lines is undefined.