Name _____

Directions:

Clear everything off your desk except this test, a pencil/pen, and a calculator.

Show all work to receive full credit, yes that means you need to show each step.

Read the directions for each question carefully.

You will have up to **60 minutes** to complete this test. Do not spend too much time on any one problem. Skip problems and come back to them if necessary.

Please (circle) or [box] all your final answers.

1. (12 pts) Solve the following equations. Verify your solution and show your work to receive full credit.

   (a) $5w = 35$

   (b) $-2(2y + 3) = 18$

   (c) $\frac{2x}{5} = \frac{5}{12}$

   (d) $\frac{3}{7}x - \frac{1}{3} = \frac{1}{5}$

2. (7 pts) Solve for the given variable.

   (a) $P = 4L$ for $L$

   (b) $A = \frac{1}{3}L * W * H$ for $H$

   (c) $y = \frac{5}{7}x - 3$ for $x$

3. (8 pts) Solve each inequality. Then, give the answer in interval notation and graph it on a number line.

   (a) $1 - 3x \leq 16$

   Interval Notation:

   Number Line:

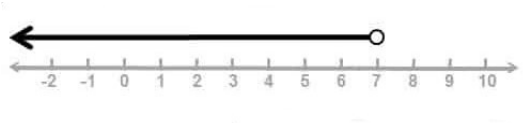
   (b) $4.5 + 1.25x > 11$

   Interval Notation:

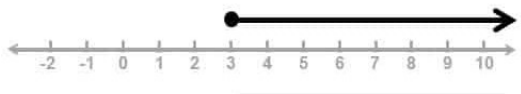
   Number Line:

4. (4 pts) Represent the given interval as an inequality and in interval notation.

   (a)




   (b)



5. (17 pts) Write an equation and then solve for the following word problems.

(a) A rectangular yard has a length which is 3 times as long as its width. Given that the perimeter is 480 feet, what is the length of the yard? (Hint: Draw a picture. Also P = L+W+L+W)

(b) John wants to buy either a new boat or a new ATV. The new ATV was originally priced at \$8700, but is on sale for 12% off. The new boat was originally priced at \$9200, but is on sale for 18% off. If John wants to buy the cheaper of the two, which should he buy?

Price of ATV:

Price of Boat:

John should buy the _____

(c) Leonard scored a 77 percent on his midterm for his history class. In order to get at least a B overall, the average of his midterm and final must be above an 83 percent. What range of scores can he get on the final exam to get a B in the class? Write your answer as an inequality. (Note: $Average = \frac{M+F}{2}$)(Bonus Points: Write your answer in interval notation.)

(d) If the sum of three **consecutive integers** is 102, then what are the three numbers? (Hint: Start with "$x$")

6. (5 pts) Translate each verbal expression into an algebraic expression. Denote the unknown number as $x$.

   (a) Twice a number.

   (b) The product of eight and some number.

   (c) The difference of some number and ten.

   (d) The sum of half a number and seven.

7. (2 pts) Please describe in 2-3 sentences how the first two units have been going for you. Indicate whetehr the lectures and homework have been useful to your learning or if there are any modifications to the class that may be helpful to you.