Unit 8:
Cumulative Review

1. From the phrase, "8 less than 12 times the height", define a variable and then write the expression algebraically.

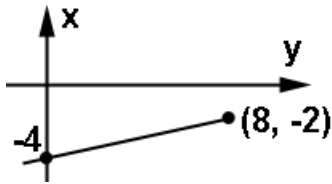2. Use unit multipliers to convert 8 inches into miles. (5280 ft = 1 mile)

3. Solve $3(x - 4) = 2(x + 1)$.

4. Find the equation of this line:

5. What is the equation of the line passing through (11,2) and (- 9, 6)?

6. What is the equation of the line passing through the origin and perpendicular to the line joining the two points of problem 5?

7. What is the equation of the line having slope = -2/3 and passing through the point (-6, 11)?

8. What is the slope of the line given by $8x - 7y + 4 = 0$?

9. Given the following ordered pairs a solutions to a linear function, find the function rule.

x	y = f(x)
0	-2
3	22
5	38
6	46

10. An orange tree currently has 30 pounds of ripe oranges. If another two pounds ripen every day, what function describes how many pounds of ripe oranges there will be several days later?

11. After how many days will there be 42 pounds of ripe oranges on the tree?	12. How many ripe oranges will there be after 10 more days?

13. A full can of soft drink straight out of a refrigerator (35 degrees) is tossed into a large swimming pool that maintains a constant temperature of 82 degrees. Sketch a graph of the temperature of the can as a function of time.

Which is the dependent variable?

Which is the independent variable?

The _____ is a function of _____ and the functional notation is _____

14. If $f(x) = 3x + 2$ and $g(x) = x^2 - 12$, find $f(2) + g(-3)$.

15. Solve the following inequality and show the answer both algebraically and graphically: $3x < 5(x - 4) + 8$