Selected Applications of Linear Functions

Example 1: Bolt Industries compensates its salespeople with a base monthly salary of \$1000 and a commission of 5% of sales.

a.	Write an equation to calculate a salesperson's total monthly compensation given his or her monthly sales.
b.	Show how to use your equation to find the monthly compensation for a salesperson with monthly sales of \$30,000.
c.	Write an equation to calculate the monthly sales required to produce a desired level of monthly income.
d.	Show how to use your equation in part (c.) to determine the monthly sales required to produce a monthly income of \$3,000.

Example 2: We know that water freezes at 32° Fahrenheit and 0° Celsius.	We
also know that at sea level water boils at 212° Fahrenheit and 100° Celsius.	

a. Write an equation to calculate the Celsius temperature corresponding to a specified Fahrenheit temperature.

b. Write an equation to calculate the Fahrenheit temperature corresponding to a specified Celsius temperature.

c. Is there a temperature value x such that x° Fahrenheit is the same as x° Celsius? If so, what is that temperature? If not prove no such x exists.