

**Sec 4.2 – Solving Equations Using Algebra**

<b>I'm thinking of a number...</b>	<b>Solution</b>	<b>Verify</b>
1) ...and when I multiply the number by two and increase the result by five, I get eleven.		
2) ...and when I multiply the number by five and increase the result by nine, I get negative one.		
3) ...and when I multiply the number by three and decrease the result by eight, I get negative two.		

**BIG IDEA** – How do you know what order of operations to use to solve for the variable?

**Practice** – Use algebra to solve each equation.

1)  $11x - 7 = 48$

2)  $3x - 7 = 5$

3)  $14 = 13x - 12$

4)  $6x - 1 = 10$

### **Solving Problems**

1) Mary wants her friend to guess how many cards she has in her hand. She says that if the number of cards in her hand is tripled, and 4 are added, then she has 22 cards.

a) Choose your variables and write *let* statements. Write an equation for this situation.

b) Solve the equation algebraically.

c) Verify your solution.

2. Steve charges \$5 for each bag of leaves he rakes and \$8 for mowing the lawn. ON a Saturday, Steve mowed 1 lawn and raked leaves. He earned \$43. How many bags of leaves did Steve rake?

a) Choose your variables and write *let* statements. Write an equation for this situation.

b) Solve the equation algebraically.

c) Verify your solution.