Ways to Solve Linear Equations

**Patterns and Relations**

**Unit 3 Line Master 1a**

1. Model then solve each equation. Use at least two different representations.   
If you use concrete materials, sketch your representation.

a) *x* + 8 = 14

b) 6 + 2*x* = 12

c) 14 = *x* + 7

d) 2*x* + 3 = 17

2. Solve each equation using a method of your choice.

a) 3*x* = 12  
  
  
  
 b) 5 + 2*x* = 11

c) *x* − 2 = 9

Ways to Solve Linear Equations (cont’d)

**Patterns and Relations**

**Unit 3 Line Master 1b**

3. Sammy prefers to use only arithmetic to solve equations.   
To solve the equation 3*x* + 2 = 17, Sammy thinks:   
“If 2 more than 3*x* is 17, then 3*x* must be 17 – 2.”  
3*x* + 2 – 2 = 17 – 2

3*x* = 15  
  
Sammy says that if 3*x* is 15, then *x* must be 15 ÷ 3.  
3*x* ÷ 3 = 15 ÷ 3

*x* = 5

a) How can you relate Sammy’s method to one of the models you use?

b) How does Sammy’s method ensure that both sides of the equation remain equal?

c) Why might Sammy prefer this method over using a model?

4. Use Sammy’s method to solve the equation 5*x* – 8= –3.