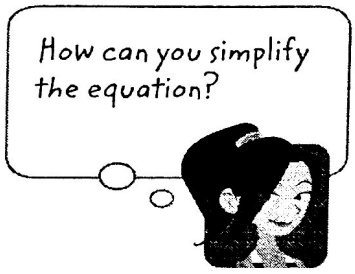
Name: _____

Solutions of Linear Equations

Solve the problems.

1 How many solutions does the equation $4x + 3 - 1 = 2(2x + 2) - 2x$ have? Explain your reasoning.

Show your work.



Solution: _____

_____

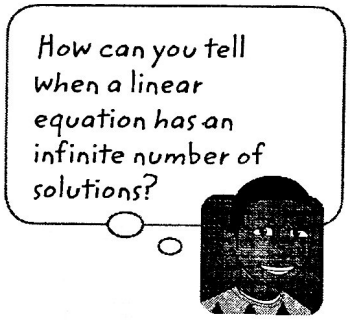
2 For which value of c will the equation $2x - 5 = 2x - c$ have an infinite number of solutions? Select all that apply.

A 3

B 4

C 5

D 6



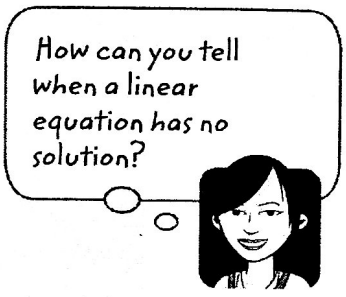
3 For which value of c will the equation $3x + c = 3x + 2$ have no solution? Select all that apply.

A 2

B 3

C 4

D 5



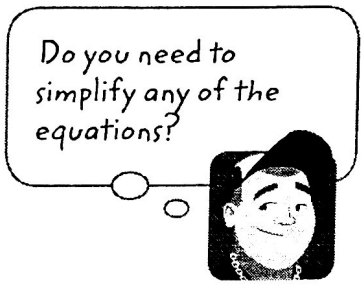
Charles chose **A** as the correct answer. How did he get that answer?

_____

_____

Solve.

4 Tell whether each statement is *True* or *False*.



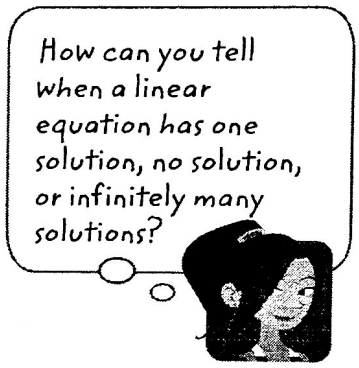
a. $3t + 7 = 3t + 6$ has no solution. ☐ True ☐ False

b. $5x - 6 = 3x - 6 + 2x$ has one solution. ☐ True ☐ False

c. $5 + 5b - 3 = 2 + 5b$ has infinitely many solutions. ☐ True ☐ False

d. When an equation has one solution, the variable terms on both sides are the same. ☐ True ☐ False

5 Nyoko wrote these two equations.



Equation 1: $6x - 5 + 2x = 4(2x - 1) - 1$

Equation 2: $3x + 7 = bx + 7$

Part A

Nyoko says that Equation 1 has one solution. Do you agree with her? Explain your reasoning.

Show your work.

Solution: _____

_____

Part B

Can Nyoko find a value for b in Equation 2 so that the equation has no solutions? Explain your reasoning.

_____

_____

_____