Chapter 2

Solving Linear Equations

Mathematically Speaking

Can you identify what happens in each step?

$15x + 13y - 4(3x+2y)$

$15x + 13y - 12x - 8y$

$15x - 12x + 13y - 8y$

$(15 - 12)x + (13 - 8)y$

$3x + 5y$

Can you identify what has happened in each step?

$15x + 13y - 4(3x+2y)$	- Given
$15x + 13y - 12x - 8y$	-Distributive
$15x - 12x + 13y - 8y$	-Commutative
$(15 - 12)x + (13 - 8)y$	-Factor
$3x + 5y$	-Addition

Identify the steps used to solve the equation, m + 4 = 29.

m+4=29	Given
- 4=-4	Inverse + ←→ -
m =25	Evaluate

Identify the steps used to solve the equation.

3x + 4 = 19	Given
- 4 = - 4	Inverse + ←→ –
3x = 15	Evaluate
÷ 3= ÷3	Inverse * ←→ ÷
x = 5	Evaluate

Identify the steps used to solve the equation.

$5x - 4 = 2(x - 4) + 18$

$5x - 4 = 2x - 8 + 18$

$5x - 4 = 2x + 10$

$3x = 14$

$x = \frac{14}{3}$

Identify the steps used to solve the equation.

$5x - 4 = 2(x - 4) + 18$ Given

$5x - 4 = 2x - 8 + 18$ Distributive

$5x - 4 = 2x + 10$ Addition

$3x = 14$ Inverse Ops

Like terms

$x = \frac{14}{3}$ Inverse Ops

Identify the steps used to solve the equation.

$-5x + 3 + 2x = 7x - 8 + 9x$

$-3x + 3 = 16x - 8$

$11 = 19x$

$\frac{11}{19} = x$

$x = \frac{11}{19}$

Identify the steps used to solve the equation.

$-5x + 3 + 2x = 7x - 8 + 9x$ Given

$-3x + 3 = 16x - 8$ Like Terms

$11 = 19x$ Inverse Ops

$\frac{11}{19} = x$ Inverse Ops

$x = \frac{11}{19}$ Symmetric property