



Warm Up Grade 8



Hint : look for the key words that go with the variable

For the problem, state the variable, write and solve the equation, verify and give a statement.

Sally has a cell phone that has a monthly charge of \$20 plus an additional \$0.05 for each call or text that is made. If Sally's bill last month was \$80.20, how many call/texts did she make?

Let $x \equiv$ # of calls/texts she made

$$0.05x + 20 = 80.20$$

$$0.05x + \cancel{20}^{-20} = \underbrace{80.20 - 20}$$

$$0.05x = \$60.20$$

$$\div (0.05) \quad \div (0.05)$$

$$x = 1204$$

Sally made 1204 call/texts.

pg 347

10. c = cost of ticket $ct6$ = cost for each person

$$8(ct6) = 264$$

$$8c + 48 = 264$$

$$8c + 48 - 48 = 264 - 48$$

$$8c = 216$$

$$\frac{8c}{8} = \frac{216}{8}$$

Cost of red ticket was 27 ($c = 27$)

$$\begin{array}{l} \text{LS} \\ 8(ct6) \\ 8(27+6) \\ 8 \times 33 \\ 264 \end{array}$$

$$\begin{array}{l} \text{RS} \\ 264 \end{array}$$

11. n = the integer

$$-5(n+9) = 15$$

$$-5n + (-45) = 15$$

$$-5n - 45 + 45 = 15 + 45$$

$$-5n = 60$$

$$\frac{-5n}{-5} = \frac{60}{-5}$$

$$n = -12$$

The integer is -12

$$\begin{array}{l} \text{LS} \\ -5(n+9) \\ -5(-12+9) \\ -5 \times -3 \\ 15 \end{array}$$

$$\begin{array}{l} \text{RS} \\ 15 \end{array}$$

12. $n = \text{the integer}$

$$-4(n-7) = 36 \quad -4n - (-28)$$

$$-4n + 28 = 36$$

$$-4n + 28 - 28 = 36 - 28$$

$$-4n = 8$$

$$\frac{-4n}{-4} = \frac{8}{-4}$$

$$n = -2$$

The integer was
 -2 .

$$\begin{array}{l} -4(n-7) \\ -4(-2-7) \\ -4x-9 \\ 36 \end{array}$$

$$R \text{ } 36$$

13 Kirsten's mistake was that she divided the left side by -8 , and the right side by 8 .

$$b) -8x = -16$$

$$\frac{-8x}{-8} = \frac{-16}{8}$$

$$x = 2$$

$$\begin{aligned}
 14a) -10 &= 5(t-2) \\
 -10 &= 5t-10 \\
 -10+10 &= 5t-10+10 \\
 0 &= 5t \\
 \frac{0}{5} &= \frac{5t}{5} \\
 0 &= t
 \end{aligned}$$



LS
-10

RS
 $5(t-2)$
 $5(0-2)$
 $5x-2$
 -10

$$\begin{aligned}
 b) 7 &= 2(p-3) \\
 7 &= 2p-6 \\
 7+6 &= 2p-6+6 \\
 13 &= 2p \\
 \frac{13}{2} &= \frac{2p}{2} \\
 6.5 &= p
 \end{aligned}$$

LS
7

RS
 $2(p-3)$
 $2(6.5-3)$
 2×3.5
 7

$$\begin{aligned}
 c) 4(r+5) &= 23 \\
 4r+20 &= 23 \\
 4r+20-20 &= 23-20 \\
 4r &= 3 \\
 \frac{4r}{4} &= \frac{3}{4} \\
 r &= \frac{3}{4}
 \end{aligned}$$

LS
 $4(r+5)$
 $4(0.75+5)$
 4×5.75
 23

RS
23

$$\begin{aligned}
 d) -3(s+6) &= 18 \\
 -3s-18 &= 18 \\
 -3s-18+18 &= 18+18 \\
 -3s &= 36 \\
 \frac{-3s}{-3} &= \frac{36}{-3} \\
 s &= -12
 \end{aligned}$$

LS
 $-3(s+6)$
 $-3(-12+6)$
 -3×-6
 18

RS
18

Sheet Ex Prac 5

$$1) 5(a+2) = -5$$

$$5a + 10 = -5$$

$$5a + 10 - 10 = -5 - 10$$

$$5a = -15$$

$$\frac{5a}{5} = \frac{-15}{5}$$

$$a = -3$$

verify

LS	RS
$5(a+2)$	-5
$5(-3+2)$	
5×-1	
-5	

$$b) 4(p-6) = -4$$

$$4p - 24 = -4$$

$$4p - 24 + 24 = -4 + 24$$

$$4p = 20$$

$$\frac{4p}{4} = \frac{20}{4}$$

$$p = 5$$

LS	RS
$4(p-6)$	-4
$4(5-6)$	
4×-1	
-4	

$$c) 10(y+3) = 10$$

$$10y + 30 = 10$$

$$10y + 30 - 30 = 10 - 30$$

$$10y = -20$$

$$\frac{10y}{10} = \frac{-20}{10}$$

$$y = -2$$

LS	RS
$10(y+3)$	10
$10(-2+3)$	
10×1	
10	

$$d) 7(r-6) = 7$$

$$7r - 42 = 7$$

$$7r - 42 + 42 = 7 + 42$$

$$7r = 49$$

$$\frac{7r}{7} = \frac{49}{7}$$

$$r = 7$$

LS	RS
$7(r-6)$	7
$7(7-6)$	
7×1	
7	

$$\begin{aligned}
 2a) -7(b+6) &= -84 \\
 -7b-42 &= -84 \\
 -7b-42+42 &= -84+42 \\
 -7b &= -42 \\
 \frac{-7b}{-7} &= \frac{-42}{-7} \\
 b &= +6
 \end{aligned}$$

$$\begin{array}{l}
 \text{LS} \\
 -7(b+6) \\
 -7(b+6) \\
 -7 \times 12 \\
 -84 \\
 \text{RS} \\
 -84
 \end{array}$$

$$\begin{aligned}
 b) -5(g-11) &= 70 \\
 -5g+55 &= 70 \\
 -5g+55-55 &= 70-55 \\
 -5g &= 15 \\
 \frac{-5g}{-5} &= \frac{15}{-5} \\
 g &= -3
 \end{aligned}$$

$$\begin{array}{l}
 \text{LS} \\
 -5(g-11) \\
 -5(-3-11) \\
 -5 \times -14 \\
 70 \\
 \text{RS} \\
 70
 \end{array}$$

$$\begin{aligned}
 c) -9(d-3) &= -45 \\
 -9d+27 &= -45 \\
 -9d+27-27 &= -45-27 \\
 -9d &= -72 \\
 \frac{-9d}{-9} &= \frac{-72}{-9} \\
 d &= +8
 \end{aligned}$$

$$\begin{array}{l}
 \text{LS} \\
 -9(d-3) \\
 -9(8-3) \\
 -9 \times 5 \\
 -45 \\
 \text{RS} \\
 -45
 \end{array}$$

$$\begin{aligned}
 d) -6(f-5) &= 36 \\
 -6f+30 &= 36 \\
 -6f+30-30 &= 36-30 \\
 -6f &= 6 \\
 \frac{-6f}{-6} &= \frac{6}{-6} \\
 f &= -1
 \end{aligned}$$

3 $p = \text{price of voucher}$

$$5(8+p) = 55$$

$$40 + 5p = 55$$

$$40 + 5p - 40 = 55 - 40$$

$$5p = 15$$

$$\frac{5p}{5} = \frac{15}{5}$$

$$p = 3$$

The ice cream voucher was \$3

$$\begin{array}{l} \text{LS} \\ 5(8+p) \\ 5(8+3) \\ 5 \times 11 \\ 55 \end{array} \qquad \begin{array}{l} \text{RS} \\ 55 \end{array}$$

4.

$$\boxed{\text{Per} = 54} \quad 12$$

m

$m = \text{length of plot}$

$$m + 12 + m + 12 = 54$$

$$2m + 24 = 54$$

$$2m + 24 - 24 = 54 - 24$$

$$2m = 30$$

$$\frac{2m}{2} = \frac{30}{2}$$

$$m = 15$$

The length is 15m.

$$2(m+12) = 54$$

$$\begin{array}{l} \text{LS} \\ m+12 \quad m+12 \\ 15+12 \quad 15+12 \\ 27 \end{array} \qquad \begin{array}{l} \text{RS} \\ 54 \end{array}$$

5. $n =$ the number

$$-4(n+9) = -16$$

$$-4n + -36 = -16$$

$$-4n + 36 - (36) = -16 - (-36)$$

$$-4n = 20$$

$$\frac{-4n}{-4} = \frac{20}{-4}$$

$$n = -5$$

The integer was -5

$$-4n - 36 = -16$$

$$-4n - 36 + 36 = -16 + 36$$

$$-4n = 20$$

LS

$$-4(n+9)$$

$$-4(-5+9)$$

$$-4 \times 4$$

$$-16$$

RS

$$-16$$

Class/Homework

Test _____

page 350

#1, #2, #3, #4, #7, #9, #10

model only 1c

Test outline

5 MC

6 Short Response

#1 Draw tiles and solve an equation

~~#2 Use Algebra tiles or box method to prove distributive property.~~

#2(ab) For each problem, state the variable, write and solve the equation and give a statement. (Like warm up)

#4 Solve Ex) $2(x-3)=16$ ex) $(x/3)-7=10$

#5 Is it correct if yes then verify if no then redo)