



## Warm Up Grade 7

Use Mental Math

1)  $0.3 \times 40$

$$\bullet 3 \times 40 = 120$$

~~2) 75% of 160~~

## Solve using algebra

1)  $2x - 5 = 33$

$$2x - \cancel{5} + 5 = 33 + 5$$

$$2x = 38$$
$$\div 2 \quad \div 2$$

$$\boxed{x = 19}$$

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2  $m =$  the number

a)  $m + 19 = 42$

$$m + 19 - 19 = 42 - 19$$

$$m = 23$$

Ls verify

$$\begin{array}{l} m + 19 \\ 23 + 19 \\ 42 \end{array}$$

Rs

$$42$$

b)  $3m + 10 = 25$

$$3m + 10 - 10 = 25 - 10$$

$$3m = 15$$

$$\frac{3m}{3} = \frac{15}{3}$$

$$m = 5$$

Ls verify

$$\begin{array}{l} 3m + 10 \\ 3 \times 5 + 10 \\ 15 + 10 \\ 25 \end{array}$$

Rs

$$25$$

c)  $4m + 15 = 63$

$$4m + 15 - 15 = 63 - 15$$

$$4m = 48$$

$$\frac{4m}{4} = \frac{48}{4}$$

$$m = 12$$

Ls verify

$$\begin{array}{l} 4m + 15 \\ 4 \times 12 + 15 \\ 48 + 15 \\ 63 \end{array}$$

Rs

$$63$$

3.  $a = \text{Jari's age now}$

$$2a + 5 = 27$$

$$2a + 5 - 5 = 27 - 5$$

$$2a = 22$$

$$\frac{2a}{2} = \frac{22}{2}$$

$$a = 11$$

verify

LS	RS
$2a + 5$	$27$
$2 \times 11 + 5$	
$22 + 5$	
$27$	

Jari is now 11.

4.  $h = \text{hours Jenny babysat}$

$$6h + 3 = 33$$

$$6h + 3 - 3 = 33 - 3$$

$$6h = 30$$

$$\frac{6h}{6} = \frac{30}{6}$$

$$h = 6$$

per  
hour

verify

LS	RS
$6h + 3$	$33$
$6 \times 6 + 3$	
$30 + 3$	
$33$	

Jenny babysat  
for 6 hours

5.  $x = \text{number of weeks}$

$$7x + 4 = 25$$

$$7x + 4 - 4 = 25 - 4$$

$$7x = 21$$

$$\frac{7x}{7} = \frac{21}{7}$$

$$x = 3$$

verify

LS	RS
$7x + 4$	$25$
$7 \times 3 + 4$	
$21 + 4$	
$25$	

6.  $s$  = side length of square

Per of Square + Per of  $\triangle = 56$

Per of  $\square + 24 = 56$

$$4s + 24 = 56$$

$$4s + 24 - 24 = 56 - 24$$

$$4s = 32$$

$$\frac{4s}{4} = \frac{32}{4}$$

$$s = 8$$

$$\begin{array}{l} \text{LS} \\ 4s + 24 \\ 4 \times 8 + 24 \\ 32 + 24 \\ 56 \end{array}$$

$$\begin{array}{l} \text{RS} \\ 56 \end{array}$$

The length of the side is 8

7. Saves \$24 / week  
has \$72

$w$  = number of weeks

$$24w + 72 = 288$$

$$24w + 72 - 72 = 288 - 72$$

$$24w = 216$$

$$\frac{24w}{24} = \frac{216}{24}$$

$$w = 9$$

In 9 weeks, she will have \$288

$$\begin{array}{l} \text{LS Verify} \\ 24w + 72 \\ 24 \times 9 + 72 \\ 216 + 72 \\ 288 \end{array}$$

$$\begin{array}{l} \text{RS} \\ 288 \end{array}$$

## Extra Practice 4

1a)  $x - 29 = 13$

$$x - 29 + 29 = 13 + 29$$

$$x = 42$$

b)  $8x = 72$

$$\frac{8x}{8} = \frac{72}{8}$$

$$x = 9$$

c)  $7x = 49$

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

$$x = 7$$

d)  $x + 19 = 73$

$$x + 19 - 19 = 73 - 19$$

$$x = 54$$

e)  $3x - 8 = 46$

$$3x - 8 + 8 = 46 + 8$$

$$3x = 54$$

$$\frac{3x}{3} = \frac{54}{3}$$

$$x = 18$$

Ls	verify	Rs
$3x - 8$		$46$
$3 \times 18 - 8$		
$54 - 8$		
$46$		

f)  $2x + 11 = 55$

$$2x + 11 - 11 = 55 - 11$$

$$2x = 44$$

$$\frac{2x}{2} = \frac{44}{2}$$

$$x = 22$$

Ls	verify	Rs
$2x + 11$		$55$
$2 \times 22 + 11$		
$44 + 11$		
$55$		

2.  $a =$  the number

$$\begin{aligned} \text{a) } a + 17 &= 73 \\ a + 17 - 17 &= 73 - 17 \\ a &= 56 \end{aligned}$$

The number is 56

$$\begin{array}{l} \text{LS} \quad \text{verify} \quad \text{RS} \\ a + 17 \quad \quad \quad 73 \\ 56 + 17 \\ \hline 73 \end{array}$$

$$\begin{aligned} \text{b) } a - 13 &= 47 \\ a - 13 + 13 &= 47 + 13 \\ a &= 60 \end{aligned}$$

The number is 60

$$\begin{array}{l} \text{L} \quad \text{verify} \quad \text{R} \\ a - 13 \quad \quad \quad 47 \\ 60 - 13 \\ \hline 47 \end{array}$$

$$\text{c) } 6a = 54$$

$$\begin{aligned} \frac{6a}{6} &= \frac{54}{6} \\ a &= 9 \end{aligned}$$

The number is 9

$$\begin{array}{l} \text{LS} \quad \text{verify} \quad \text{RS} \\ 6a \quad \quad \quad 54 \\ 6 \times 9 \\ \hline 54 \end{array}$$

$$\text{d) } 3a + 7 = 31$$

$$\begin{aligned} 3a + 7 - 7 &= 31 - 7 \\ 3a &= 24 \\ \frac{3a}{3} &= \frac{24}{3} \\ a &= 8 \end{aligned}$$

The number is 8

$$\begin{array}{l} \text{LS} \quad \text{verify} \quad \text{RS} \\ 3a + 7 \quad \quad \quad 31 \\ 3 \times 8 + 7 \\ 24 + 7 \\ \hline 31 \end{array}$$

$$\text{e) } 2a - 5 = 29$$

$$\begin{aligned} 2a - 5 + 5 &= 29 + 5 \\ 2a &= 34 \\ \frac{2a}{2} &= \frac{34}{2} \\ a &= 17 \end{aligned}$$

The number is 17

$$\begin{array}{l} \text{LS} \quad \text{verify} \quad \text{RS} \\ 2a - 5 \quad \quad \quad 29 \\ 2 \times 17 - 5 \\ 34 - 5 \\ \hline 29 \end{array}$$

$$\text{f) } 9a + 9 = 99$$

$$\begin{aligned} 9a + 9 - 9 &= 99 - 9 \\ 9a &= 90 \\ \frac{9a}{9} &= \frac{90}{9} \\ a &= 10 \end{aligned}$$

The number is 10

$$\begin{array}{l} \text{LS} \quad \text{verify} \quad \text{RS} \\ 9a + 9 \quad \quad \quad 99 \\ 9 \times 10 + 9 \\ 90 + 9 \\ \hline 99 \end{array}$$



Recall key words:

For each, for every per, / ● → this goes with the variable.

Example 1) Marie went bowling. It cost \$3 for shoe rental and \$2 for each game. The total amount of money was \$25. How many games did Marie play?

$$\text{let } g \equiv \# \text{ of game}$$

$$2g + 3 = 25$$

$$2g + \cancel{3-3} = \underbrace{25-3}$$

$$2g = 22$$

$$\div 2 \quad \div 2$$

$$g = 11$$

Marie played 11 games.



Hint: How many people went bowling? So how much for shoes?

Solution to Example

Marnie went bowling. It cost \$3 for shoe rental and \$2 for one game. The total amount of money was \$25. How many games did Marnie play?

$$x = \text{games played}$$

$$2x + 3 = 25$$

$$2x + 3 - 3 = 25 - 3$$

$$2x = 22$$

$$\frac{2x}{2} = \frac{22}{2}$$

$$x = 11$$

Marnie played 11 games.



# Class / Homework

Back Side  
Ex Prac 4 # 3, 4, 5 (already have)

Page 243 # 1 ~~2~~ 2, 3, 4

Thursday  
April 27

Each  
for every  
per  
/ } goes with  
letter  
#x



## Attachments

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Extra Practice 4 Solving Equations byusin algebra pdf.pdf