


Review

Section 6.1

April 2



**Solving Equations
by Using
Inverse Operations**

Homework Solutions

$$9) a) \quad 1 - k \leq 4 + k$$

$$1 - k^{-k} \leq 4 + k^{-k}$$

$$1 - 2k \leq 4$$

$$1^{-1} - 2k \leq 4^{-1}$$

$$-2k \leq 3$$

$$\frac{-2k}{-2} \geq \frac{3}{-2}$$

$$k \geq -1.5$$

We have to divide by a negative so we have to switch the direction of the inequality

$$9e) \quad -6.4 + 3.6s \leq 1.8s + 1.7$$

$$-6.4 + 3.6s^{-1.8s} \leq 1.8s^{-1.8s} + 1.7$$

$$-6.4 + 1.8s \leq 1.7$$

$$-6.4 + 1.8s^{+6.4} \leq 1.7^{+6.4}$$

$$1.8s \leq 8.1$$

$$\frac{1.8s}{1.8} \leq \frac{8.1}{1.8}$$

$$s \leq 4.5$$

$$9f) \quad -2.5v + 4.7 \geq -3.8v + 1.58$$

$$-2.5v + 4.7^{+3.8v} \geq -3.8v + 1.58^{+3.8v}$$

$$1.3v + 4.7 \geq 1.58$$

$$1.3v + 4.7^{-4.7} \geq 1.58^{-4.7}$$

$$1.3v \geq -3.12$$

$$\frac{1.3v}{1.3} \geq \frac{-3.12}{1.3}$$

$$v \geq -2.4$$

Inverse Operations

Inverse operations: is to do the opposite
(undo or reverse each other's result)

x^2
 $\sqrt{\quad}$

Addition and subtraction are inverse operations

+ -

Multiplication and division are inverse operations

X ÷

Solving One-Step Equations

Write and solve an equation to determine each number.

a) 5 times a number is 16

Let x be the number

$$5x = 16$$

$$\frac{5x}{5} = \frac{16}{5}$$

$$x = 3.2$$

b) A number divided by 7 is 4.5

$$\frac{k}{7} = 4.5$$

$$(7) \frac{k}{7} = 4.5(7)$$

$$k = 31.5$$

$$x = 3$$

The Two-Step Equation

$$2x + 3 = 14$$

ALGEBRAIC SOLUTION

$$\begin{aligned}
 2x + 3 &= 14 \\
 2x + 3 - 3 &= 14 - 3 \\
 2x &= 11 \\
 \frac{2x}{2} &= \frac{11}{2} \\
 x &= 5.5
 \end{aligned}$$

Handwritten work:

$$\begin{array}{l}
 \text{LS} \qquad \text{RS} \\
 2x + 3 = 14 \\
 2(5.5) + 3 = 14 \\
 11 + 3 = 14 \\
 14 \leftarrow
 \end{array}$$

LS = RS
 $\therefore x = 5.5$

Sub your answer into the left hand side of your equation and see if it equals the right hand side

sub $x = 5.5$ into the LHS

| | | |
|--------------|---|------|
| LHS | = | RHS |
| $2x + 3$ | | 14 |
| $2(5.5) + 3$ | | |
| $11 + 3$ | | |
| 14 | | |

LHS = RHS so we are right

You try



$$\begin{aligned}
 1) \quad & \cancel{-2w} + \cancel{6} = -30.8 \\
 & \underline{-2w = -36.8} \\
 & \quad \underline{-2} \quad \underline{-2} \\
 & w = 18.4
 \end{aligned}$$

$$\begin{aligned}
 2) \quad & \frac{b}{-5} = 15.8 \\
 & \frac{b}{-5} \times -5 = 15.8 \times -5 \\
 & b = -79
 \end{aligned}$$

$$\begin{aligned}
 3) \quad & 7 = \frac{n}{4} - 15.6 \\
 & \frac{n}{4} = 7 + 15.6 \\
 & \frac{n}{4} = 22.6 \\
 & \frac{n}{4} \times 4 = 22.6 \times 4 \\
 & n = 90.4
 \end{aligned}$$

Some harder examples from Mrs. Maltby's time!

$$\begin{aligned}
 1) \quad & 5(-2 - p) = 2(p + 2) \\
 & -10 - 5p = 2p + 4 \\
 & \cancel{-10} - 7p = 4 + \cancel{10} \\
 & -7p = 14 \\
 & \frac{-7p}{-7} = \frac{14}{-7} \\
 & p = -2
 \end{aligned}$$

$$\begin{aligned}
 2) \quad & 3x + 4 = 5x + 5 \\
 & \frac{3x + 4}{2} = \frac{5x + 5}{2} \\
 & 36x + 32 = 50x + 50 \\
 & 21x + 32 = 60 \\
 & \frac{21x}{21} = \frac{28}{21} \\
 & x = \bar{1.3}
 \end{aligned}$$

**Class Work
and
Finish for Homework**

LAST CHANCE FOR ROMANCE

page 310 # 2,
page 313 # 13
page 309 # 11, # 12, # 16