

CHAPTER 4 REVIEW

4.1 – SOLVING ONE and TWO STEP LINEAR EQUATIONS

1. Solve each equation using *one-step opposite operations*

(a) $x + 1 = 4$
 $x = 4 - 1$
 $x = 3$

(b) $x - 5 = 6$

(c) $-5 = x + 1$

(d) $\frac{9x}{9} = \frac{81}{9}$
 $x = 9$

(e) $5x = -25$

(f) $-60 = -15x$

(g) $\frac{x}{4} = 5$
 $4\left(\frac{x}{4}\right) = 4(5)$
 $x = 20$

(h) $\frac{x}{3} = -4$

(i) $\frac{x}{-5} = -7$

2. Solve each equation using *two-step opposite operations*

(a) $2x - 10 = 26$
 $2x = 26 + 10$
 $\frac{2x}{2} = \frac{36}{2}$
 $x = 18$

(b) $-2x + 3 = 21$

(c) $-2 = 3x - 5$

(d) $\frac{x}{4} + 6 = 11$
 $\frac{x}{4} = 11 - 6$
 $\frac{x}{4} = 5$

(e) $\frac{x}{5} - 4 = -1$

(f) $\frac{x}{6} - 3 = 8$

$4\left(\frac{x}{4}\right) = 4(5)$
 $x = 20$



4.2 – SOLVING MULTI-STEP LINEAR EQUATIONS

1. Solve the following equations by **expanding** (using the **distributive property**) and **collecting like terms**

(a) $2(x - 1) = -6$
 $2x - 2 = -6$
 $2x = -6 + 2$
 $\frac{2x}{2} = \frac{-4}{2}$
 $x = -2$

(b) $3(x + 2) = 24$

(c) $-4(x - 2) = -32$

2. Solve each equation by **expanding/distributive property** (where necessary) and **collecting like terms**

(a) $3x + 5 = 2x - 10$
 $3x - 2x = -10 - 5$
 $x = -15$

(b) $4x - 3 = 2x + 3$

(c) $x - 2 = -x + 18$

(d) $2(x + 3) = 3(x - 2)$

(e) $4(x - 1) = 2(x + 1)$

3. Solve each equation by **eliminating the fraction**

(a) $\frac{5x - 2}{3} = 1$

(b) $\frac{x - 1}{2} = -5$

(c) $\frac{2(x + 3)}{3} = 4$

$$3\left(\frac{5x - 2}{3}\right) = 3(1)$$

$$5x - 2 = 3$$

$$5x = 3 + 2$$

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

$$x = 1$$



4. Scott earns **\$800 a month** working at a grocery store. The store also gives him a **2% bonus** for every hour he works in a month. His pay is represented by the equation **$A = 800 + (0.02 \times 800)n$** , where **A** represents the total amount earned and **n** represents the **number of hours worked** each month

(a) If Scott works **160 hours**, how much will he earn in that month?

(b) If Scott wants to earn **\$1760** at the end of the month, **how many hours** would he need to work?



SOLUTIONS

4.1

1. (b) 11 (c) -6 (e) -5 (f) 4
(h) -12 (i) 35
2. (b) -9 (c) 1 (e) 15 (f) 66

4.2

1. (b) 6 (c) 10
2. (b) 3 (c) 10 (d) 12 (e) 3
3. (b) -9 (c) 3
4. (a) \$3360 (b) 60 hours