

UNIT 6 REVIEW

§6.1

1. a) $f + 6 = 3$
 $-6 \quad -6$

$$f = -3$$

b) $g - 5 = -2$
 $+5 \quad +5$

$$g = 3$$

c) $\frac{5h}{5} = \frac{25}{5}$

$$h = 5$$

d) $\frac{-2k}{-2} = \frac{6}{-2}$

$$k = -3$$

2. a) $4x - 2 = 6$
 $+2 \quad +2$

$$\frac{4x}{4} = \frac{8}{4}$$

$$x = 2$$

b) $2 - 3c = -7$
 $-2 \quad -2$

$$\frac{-3c}{-3} = \frac{-9}{-3}$$

$$c = 3$$

c) $2v - 3 = -9$
 $+3 \quad +3$

$$\frac{2v}{2} = \frac{-6}{2}$$

$$v = -3$$

d) $-2(2 + w) = -20$
 $-4 - 2w = -20$
 $+4 \quad +4$

$$\frac{-2w}{-2} = \frac{-16}{-2}$$

$$w = 8$$

§6.2

3. a) $9 - 2w = w - 6$
 $-9 \quad -9$

$$\frac{-2w}{-w} = \frac{w - 15}{-w}$$

$$\frac{-3w}{-3} = \frac{-15}{-3}$$

$$w = 5$$

b) $e - 6 = 6 - e$
 $+6 \quad +6$

$$\frac{e}{+e} = \frac{12 - e}{+e}$$

$$\frac{2e}{2} = \frac{12}{2}$$

$$e = 6$$

$$c) \quad \begin{array}{r} 3n+1=n+3 \\ -1 \quad -1 \end{array}$$

$$3n = n + 2 \\ -n \quad -n$$

$$\frac{2n}{2} = \frac{2}{2}$$

$$n = 1$$

$$d) \quad \begin{array}{r} m-2=3m+4 \\ +2 \quad +2 \end{array}$$

$$m = 3m + 6 \\ -3m \quad -3m$$

$$\frac{-2m}{-2} = \frac{6}{-2}$$

$$m = -3$$

$$4. \quad a) \quad \begin{array}{r} 6 + \frac{n}{2} = 7 \\ -6 \quad -6 \end{array}$$

$$2 \times \frac{n}{2} = 1 \times 2$$

$$n = 2$$

$$b) \quad \begin{array}{r} 4 + \frac{2x}{3} = 2 \\ -4 \quad -4 \end{array}$$

$$3 \times \frac{2x}{3} = -2 \times 3$$

$$\frac{2x}{2} = \frac{-6}{2}$$

$$x = -3$$

$$5. \quad a) \quad \begin{array}{r} 3 + \frac{n}{2} = 2 + \frac{2n}{3} \\ -2 \quad -2 \end{array}$$

$$2 \times \left(1 + \frac{n}{2}\right) = \frac{2n}{3} \quad \times 2$$

$$3 \times (2 + n) = \frac{4n}{3} \quad \times 3$$

$$6 + 3n = 4n \\ -3n \quad -3n$$

$$6 = n$$

$$b) \quad \frac{1}{3}(x+3) = \frac{3}{5}(1+x)$$

$$5 \times \left(\frac{1}{3}x + 1\right) = \left(\frac{3}{5} + \frac{3x}{5}\right) \times 5$$

$$\frac{5x}{3} + 5 = 3 + 3x \\ -3 \quad -3$$

$$3 \times \left(\frac{5x}{3} + 2\right) = 3x \times 3$$

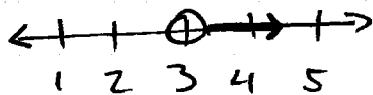
$$5x + 6 = 9x \\ -5x \quad -5x$$

$$\frac{6}{4} = \frac{4x}{4}$$

$$x = \frac{6}{4} = 1\frac{1}{2}$$

§6.3

6. a) $q > 3$



$$q = 4, 7, 473$$

b) $w \leq 0$



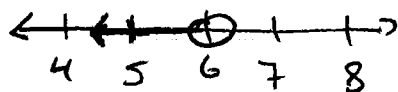
$$w = -1, -27, -\frac{1}{2}$$

c) $t \geq -1$



$$t = 0, \frac{3}{4}, 29$$

d) $r < 6$



$$r = 4, -4, -17$$

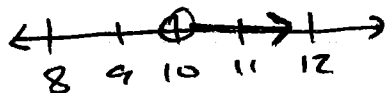
7. a) $x \leq 0$

b) $x > 2$

§6.4

a) $d - 6 > 4$
+6 +6

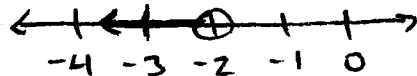
$$d > 10$$



b) $2f + 1 < -3$
-1 -1

$$\frac{2f}{2} < \frac{-4}{2}$$

$$f < -2$$



c) $4j - 1 \geq 2j + 3$
+1 +1

$$4j \geq 2j + 4$$

$$-2j \quad -2j$$

$$\frac{2j}{2} \geq \frac{4}{2}$$

$$j \geq 2$$



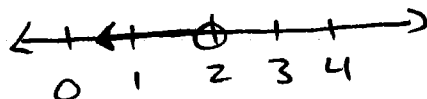
d) $k - 2 < 2 - k$
+2 +2

$$k < 4 - k$$

$$+k \quad +k$$

$$\frac{2k}{2} < \frac{4}{2}$$

$$k < 2$$



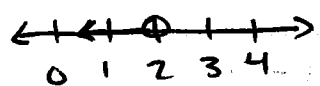
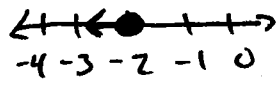
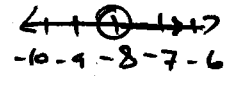
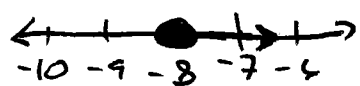
§6.5

9. a) No b) Yes, $\frac{-2x \geq 4}{-2 \quad -2}$ c) Yes, $\frac{-2 < 4 \times -2}{-2 \quad -2}$ d) No

$x \leq -2$ $c > -8$

10. a) $\frac{2n < 4}{2 \quad 2}$ b) $x \leq -2$ c) $c > -8$ d) $2\sqrt{\frac{v}{2}} \geq -4 \times 2$

$n < 2$ $v \geq -8$

11. a) $-3b + 4 \geq -5$

$-4 \quad -4$

$\frac{-3b \geq -9}{-3 \quad -3}$

$b \leq -3$



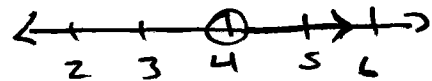
b) $n + 2 < 2n - 2$

$+2 \quad +2$

$n + 4 < 2n$

$-n \quad -n$

$4 < n$



c) $-5 - m < 3 + m$

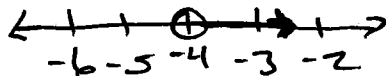
$+5 \quad +5$

$-m < 8 + m$

$-m \quad -m$

$\frac{-2m < 8}{-2 \quad -2}$

$m > -4$



d) $2 - \frac{x}{2} > 1$

$-2 \quad -2$

$2 \times \frac{-x}{2} > -1 \times 2$

$\frac{-x > -2}{-1 \quad -1}$

$x < 2$



12. a) SHOULD NOT HAVE DIVIDED FIRST

b) $2 \times 4 = 8$ NOT 6, NEED TO DIVIDE BY -5, NOT ADD

13.

$$\begin{array}{r} 29 + 13K = 85 + 6K \\ -29 \qquad -29 \end{array}$$

$$\begin{array}{r} 13K = 56 + 6K \\ -6K \qquad -6K \end{array}$$

$$\begin{array}{r} 7K = 56 \\ \hline 7 \quad 7 \end{array}$$

$$K = 8$$

AT 8km THE CARS WILL COST THE SAME.

14.

a) LET M BE THE COST OF THE MAGAZINE

$$\begin{array}{r} 13.28 + M \leq 18 \\ -13.28 \qquad -13.28 \end{array}$$

$$M \leq 4.72$$

CLAIRE CAN SPEND UP TO \$4.72 ON A MAGAZINE

15. $t > 43$; THEY WILL NEED TO SELL MORE THAN 43 T-SHIRTS IN ORDER TO MAKE A PROFIT.