

HONORS CHAP 6 REVIEW HW

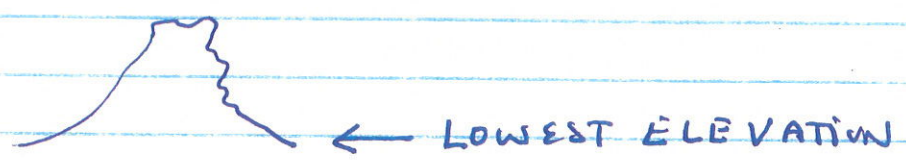
Pg 415 #'s 4, 5-29, 31-44

Pg 419 #'s 1-4, 23, 25, 32

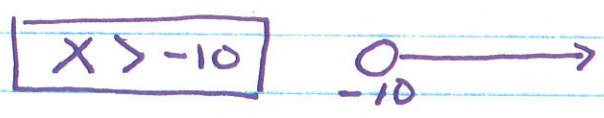
Pg 385 #'s 33-36

Pg 415

4 KT: Mexico



X = ELEVATION in meters



#'s 5-29 Attached (Accd. Alg 1 HW)

ACAD. ALG I

CHAPTER 6 REVIEW HW

Pg 415 #'s 5-29

$$\textcircled{5} \quad \begin{array}{r} x + 5 > -13 \\ -5 \quad -5 \end{array}$$

$$x > -18$$



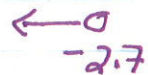
$$\textcircled{6} \quad \begin{array}{r} m + 9 > -4 \\ +9 \quad +9 \end{array}$$

$$m > -5$$



$$\textcircled{7} \quad \begin{array}{r} s + 3.7 < 1 \\ -3.7 \quad -3.7 \end{array}$$

$$s < -2.7$$



$$\textcircled{8} \quad \begin{array}{r} 2 \cdot \frac{p}{2} \leq 5.2 \\ \cancel{2} \quad \cancel{2} \end{array}$$

$$p \leq 10$$



$$\textcircled{9} \quad \begin{array}{r} \frac{N}{-4.5} < (-8) \cdot -4.5 \\ \cancel{-4.5} \quad \cancel{-4.5} \end{array}$$

$$N > 36$$



$$\textcircled{10} \quad \begin{array}{r} -3x > 27 \\ \cancel{-3} \quad \cancel{-3} \end{array}$$

$$x < -9$$



$$\textcircled{11} \quad \begin{array}{r} 2y \geq 18 \\ \cancel{2} \quad \cancel{2} \end{array}$$

$$y \geq 9$$



* Remember to reverse the symbol when you MULTIPLY OR DIVIDE THE VARIABLE BY A NEGATIVE NUMBER

- (12) KEY INFO: ATHLETE COMPETES IN 6 EVENTS
 AVERAGE per event is ≤ 9.7 pts
 FIND THE TOTAL POSSIBLE POINTS

VARIABLE $X =$ TOTAL # of points

EQUATION $6\left(\frac{X}{6}\right) \leq (9.7)6$

SOLVE \rightarrow

$X \leq 58.2$

Answer
in
words \rightarrow

The athlete can score at most 58.2 points

(13) $2G + 11 < 25$

$$\begin{array}{r} -11 \quad -11 \\ \hline 2G < 14 \\ \frac{2}{2} \quad \frac{2}{2} \end{array}$$

$G < 7$



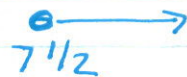
(14) $\frac{2}{3}R - 4 > 1$

$$\begin{array}{r} +4 \quad +4 \\ \hline \end{array}$$

$\left(\frac{3}{2}\right)\frac{2}{3}R > 5\left(\frac{3}{2}\right)$
 mult by reciprocal

$R > \frac{15}{2}$

OR $R > 7.5$
 OR $R > 7\frac{1}{2}$



(15) $1 - 3x \leq -14 + 2x$

$$\begin{array}{r} -2x \quad -2x \\ \hline -5x \leq -14 \\ -1 \quad -1 \\ \hline -5x \leq -15 \\ \frac{-5}{-5} \quad \frac{-15}{-5} \end{array}$$

$x \geq 3$



$$\textcircled{16} \quad 3(Q+1) < 3Q+7$$

$$\begin{array}{r} 3Q+3 < 3Q+7 \\ -3Q \quad -3Q \\ \hline 3 < 7 \end{array}$$

$$3 < 7 \quad T \leftarrow$$

$X = \text{ALL REAL NUMBERS}$

$$\textcircled{17} \quad 8(T-1) > -8+8T$$

$$\begin{array}{r} 8T-8 > 8T-8 \\ -8T \quad -8T \\ \hline -8 > -8 \end{array}$$


$$-8 > -8 \quad F$$

NOTICE THE VARIABLE DROPPED OUT

$X = \text{NO SOLUTION}$

$$\textcircled{18} \quad -3(2N-1) > 1-8N$$

$$\begin{array}{r} -6N+3 > 1-8N \\ +8N \quad +8N \\ \hline 2N+3 > 1 \\ -3 \quad -3 \\ \hline 2N > -2 \\ \frac{2N}{2} > \frac{-2}{2} \end{array}$$

$$2N > -2 \quad \rightarrow \quad N > -1$$


$\textcircled{19}$ KI: TICKETS - \$7
ADD SHIPPING - \$4

DONOT WANT TO SPEND MORE THAN \$40

VARIABLE: $X = \# \text{ of tickets}$

EQUATION: $7X+4 \leq 40$

Solve \rightarrow

$$\begin{array}{r} 7X+4 \leq 40 \\ -4 \quad -4 \\ \hline 7X \leq 36 \\ \frac{7X}{7} \leq \frac{36}{7} \end{array}$$

$$X \leq 5 \frac{1}{7}$$

ANSWER IN WORDS \rightarrow

You can order at most 5 movie tickets to spend less than \$40

(20)

$$\begin{array}{r} -6 < 2T - 5 \leq -3 \\ +5 \quad +5 \quad +5 \\ \hline -1 < 2T \leq 2 \\ \frac{-1}{2} < T \leq \frac{2}{2} \end{array}$$

$$\boxed{-\frac{1}{2} < T \leq 1}$$



(21)

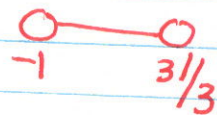
$$\begin{array}{r} -3 < -3x + 8 < 11 \\ -8 \quad -8 \quad -8 \end{array}$$

$$\begin{array}{r} -11 < -3x < 3 \\ -3 \quad -3 \quad -3 \end{array}$$

$$\frac{11}{3} > x > -1$$

rewrite to graph correctly

$$\boxed{-1 < x < 3\frac{2}{3}}$$



(22)

$$9S - 6 < 12 \quad \text{OR} \quad 3S + 1 > 13$$

$$\begin{array}{r} 9S - 6 < 12 \\ +6 \quad +6 \\ \hline 9S < 18 \\ \frac{9S}{9} < \frac{18}{9} \end{array}$$



$$\begin{array}{r} 3S + 1 > 13 \\ -1 \quad -1 \\ \hline 3S > 12 \\ \frac{3S}{3} > \frac{12}{3} \end{array}$$

$$\boxed{S < 2 \quad \text{OR} \quad S > 4}$$



(23)

$$-4w + 12 > 10 \quad \text{OR} \quad 5w - 14 > -4$$

$$\begin{array}{r} -4w + 12 > 10 \\ -12 \quad -12 \\ \hline -4w > -2 \\ \frac{-4w}{-4} > \frac{-2}{-4} \end{array}$$



$$\begin{array}{r} 5w - 14 > -4 \\ +14 \quad +14 \\ \hline 5w > 10 \\ \frac{5w}{5} > \frac{10}{5} \end{array}$$

$$\boxed{w \leq \frac{1}{2} \quad \text{OR} \quad w > 2}$$



24

$$|R| = 7$$

$$R = \pm 7$$

$$C: |7| = 7 \\ 7 = 7 \checkmark$$

$$C: |-7| = 7 \\ 7 = 7 \checkmark$$

25

$$|A+6| = 2$$

$$A+6 = -2$$

$$\begin{array}{r} -6 \quad -6 \\ \hline \end{array}$$

$$A = -8$$

$$C: |-8+6| = 2 \\ |-2| = 2 \\ 2 = 2 \checkmark$$



$$A+6 = 2$$

$$\begin{array}{r} -6 \quad -6 \\ \hline \end{array}$$

$$A = -4$$

$$C: |-4+6| = 2 \\ |2| = 2 \\ 2 = 2 \checkmark$$

26

$$|2C+5| = 21$$

$$2C+5 = -21$$

$$\begin{array}{r} -5 \quad -5 \\ \hline \end{array}$$

$$\frac{2C}{2} = \frac{-26}{2}$$

$$C = -13$$

$$C: |2(-13)+5| = 21$$

$$|-21| = 21$$

$$21 = 21 \checkmark$$

$$2C+5 = +21$$

$$\begin{array}{r} -5 \quad -5 \\ \hline \end{array}$$

$$\frac{2C}{2} = \frac{16}{2}$$

$$C = 8$$

$$C: |2(8)+5| = 21$$

$$21 = 21 \checkmark$$

27

$$2|x-3| + 1 = 5$$

$$\frac{2|x-3|}{2} = \frac{4}{2}$$

$$|x-3| = 2$$

$$\begin{array}{r} x-3 = -2 \\ +3 \quad +3 \\ \hline \end{array}$$

$$x = 1$$

$$C: 2|1-3| + 1 = 5$$

$$2|-2| + 1 = 5$$

$$5 = 5 \checkmark$$

$$\begin{array}{r} x-3 = 2 \\ +3 \quad +3 \\ \hline \end{array}$$

$$x = 5$$

$$C: 2|5-3| + 1 = 5$$

$$5 = 5 \checkmark$$

28

$$3|2Q+1| - 5 = 1$$

$$\frac{3|2Q+1|}{3} = \frac{6}{3}$$

$$|2Q+1| = 2$$

$$\begin{array}{r} 2Q+1 = 2 \\ -1 \quad -1 \\ \hline \end{array}$$

$$2Q = 1$$

$$Q = \frac{1}{2}$$

$$\begin{array}{r} 2Q+1 = -2 \\ -1 \quad -1 \\ \hline \end{array}$$

$$2Q = -3$$

$$Q = -\frac{3}{2}$$

29

$$4|3P-2| + 5 = 11$$

$$\frac{4|3P-2|}{4} = \frac{6}{4}$$

$$|3P-2| = 1.5$$

$$\begin{array}{r} 3P-2 = -1.5 \\ +2 \quad +2 \\ \hline \end{array}$$

$$3P = 0.5$$

$$P = \frac{0.5}{3}$$

$$P = .17 \text{ OR } P = \frac{1}{6}$$

$$\begin{array}{r} 3P-2 = 1.5 \\ +2 \quad +2 \\ \hline \end{array}$$

$$3P = 3.5$$


$$P = \frac{3.5}{3}$$

$$P \approx 1.17 \text{ OR}$$

$$P = 1\frac{1}{6}$$

Round to 2 decimals
 unless otherwise told

pg 418

$$|31| \quad |m| \geq 8 \rightarrow m \leq -8 \text{ or } m \geq 8$$


$$|32| \quad |6k+1| \geq 2$$

$$6k+1 \leq -2 \quad \text{or} \quad 6k+1 \geq 2$$

$$\frac{-1 \quad -1}{6} \quad \frac{-1 \quad -1}{6}$$

$$\frac{6k \leq -3}{6} \quad \frac{6k \geq 1}{6}$$

$$\frac{-1 \quad -1}{6} \quad \frac{-1 \quad -1}{6}$$

$$\frac{6k \geq 1}{6} \quad \frac{6k \geq 1}{6}$$

$$k \leq -3 \text{ or } k \geq 1/6$$



R6

PG 418

33 $|3G-2| < 5$ \rightarrow $-5 < 3G-2 < 5$

$$\begin{array}{r} +2 \qquad -2 \qquad + \\ \hline -3 < G < 7 \\ \hline 3 \qquad 3 \end{array}$$

$-1 < G < 7/3$

34 $\frac{6|3X+5|}{6} \leq \frac{14}{6}$

$$|3X+5| \leq 7/3$$

$$\begin{array}{r} -7/3 \leq 3X+5 \leq 7/3 \\ -5 \qquad -5 \end{array}$$

$$\left(\frac{1}{3}\right) \cdot \frac{-22}{3} \leq \left(\frac{1}{3}\right) 3X \leq \left(\frac{1}{3}\right) \cdot \frac{-8}{3} \left(\frac{1}{3}\right)$$

$\frac{-22}{9} \leq X \leq \frac{-8}{9}$



35 $|2J-9| -2 > 10$

$$\begin{array}{r} +2 \qquad +2 \\ \hline |2J-9| > 12 \end{array}$$

\rightarrow $2J-9 < -12$ OR $2J-9 > 12$

$$\begin{array}{l} 2J < -3 \\ J < -3/2 \end{array} \qquad \begin{array}{l} 2J > 21 \\ J > 21/2 \end{array}$$

$J < -1.5$ OR $J > 10.5$



36 $5|D+8| -7 > 13$

$$\begin{array}{l} 5|D+8| > 20 \\ |D+8| > 4 \end{array}$$

$D+8 < -4$ OR $D+8 > 4$

$D < -12$ OR $D > -4$



6.7

$-3x + 2y \geq 16$

(37) $(-2, 8)$

$-3(-2) + 2(8) \geq 16$
 $22 \geq 16$ T

SOLUTION

(38) $(-1, -1)$

$-3(-1) + 2(-1) \geq 16$
 $1 \geq 16$ F

NOT SOLUTION

(39) $(-2, 10)$

$-3(-2) + 2(10) \geq 16$
 $26 \geq 16$ T

SOLUTION

(40) $(9, -5)$

$-3(9) + 2(-5) \geq 16$
 $-37 \geq 16$ F

NOT SOLUTION

(41) $y > 2x + 3$

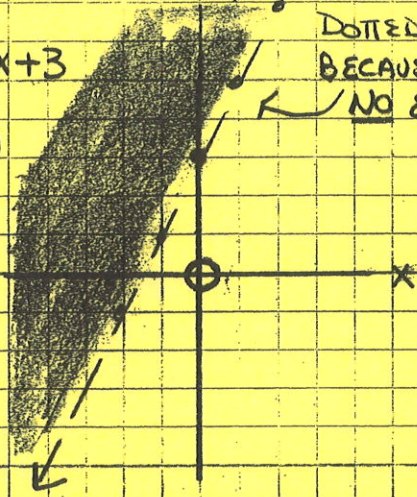
$m = 2, 1$
 $B = 3$

TEST (0,0)

$0 > 2(0) + 3$
 $0 > 3$ F

DOTTED LINE
 BECAUSE
 NO EQUAL'S

$m = \frac{\text{Rise}}{\text{Run}} = \frac{2}{1}$

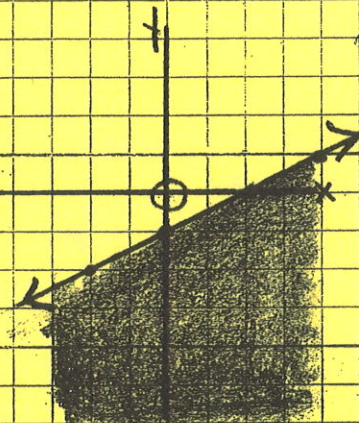


(42) $y \leq \frac{1}{2}x - 1$

$m = \frac{1}{2}$
 $B = -1$

TEST (0,0)

$0 \leq \frac{1}{2}(0) - 1$
 $0 \leq -1$ F

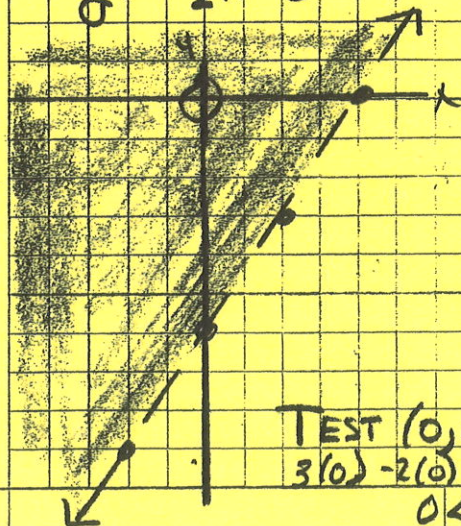


(43) $3x - 2y < 12$

$-3x \quad -3x$

$\frac{-2y}{-2} < \frac{-3x + 12}{-2} \quad \frac{-3x}{-2} \quad \frac{12}{-2}$

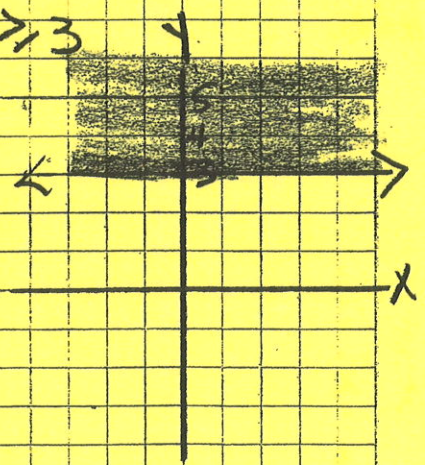
$y > \frac{3}{2}x - 6$



TEST (0,0)
 $3(0) - 2(0) < 12$
 $0 < 12$ T

*** Remember use the ORIGINAL EQUATION TO TEST THE POINT (0,0)

(44) $y \geq 3$



R6 PG 419 #'s 1-4, 23, 25, 32

1) $x < 5$

3) $-2 < x \leq 7$ OR $x > -2$ AND $x \leq 7$

2) $x \geq -1$

4) $x > 8$ OR $x < -1$

23) $\left(\frac{-4}{3}\right) \cdot \frac{-3}{4} |x - 3| = \frac{1}{4} \cdot \left(\frac{-4}{3}\right)$

$|x - 3| = \frac{-4}{12}$

Absolute cannot be negative

X = NO SOLUTION

25) $4|2z + 5| + 9 = 5$

$4|2z + 5| = -4$

$|2z + 5| = -1$

X = NO SOLUTION

32) K.I.: Profit at least \$250
Expenses = \$155
Revenue = ?

X = Revenue \$'s

Revenue - Expenses = Profit

EQ: $x - 155 \geq 250$

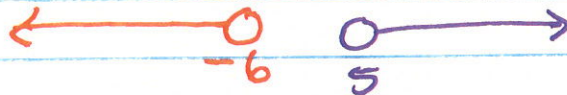
Solve \rightarrow $x \geq 405$

ANSWER IN WORDS:

YOU MUST EARN AT LEAST \$405 IN REVENUE

33 $-18 < x - 23$ AND $x - 16 < -22$
 $\quad \quad \quad +23 \quad +23$ $\quad \quad \quad \quad \quad +16 \quad +16$

$5 < x$
 $\quad \quad \quad \rightarrow x > 5$ AND $x < -6$



NO SOLUTION "AND" MUST INTERSECT.

34 $-3y + 7 \leq 11$ AND $y + 4 > 11$
 $\quad \quad \quad -7 \quad -7$ $\quad \quad \quad -4 \quad -4$
 $\quad \quad \quad \frac{-3y \leq 4}{-3} \quad \frac{-3}{-3}$

$y \geq -3/4$ AND $y > 7$



$y > 7$

"AND" Solution This is where the INEQ'S OVERLAP.

35 $2m - 1 \geq 5$ OR $5m > -25$
 $\quad \quad \quad m \geq 3$ OR $m > -5$

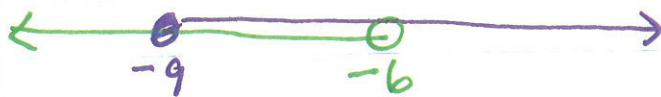


"OR" IS THE UNION OF BOTH INEQ'S.
 SOLUTION **$m > -5$**



36 $N + 19 \geq 10$ OR $-5N + 3 > 33$
 $\quad \quad \quad -19 \quad -19$ $\quad \quad \quad \frac{-5N > 30}{-5} \quad \frac{-5}{-5}$

$N \geq -9$ OR $N < -6$



ENTIRE NUMBER covered

$N = \text{ALL REAL \#s}$