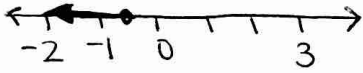
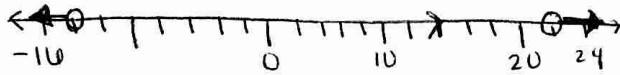


HW 62

1. a) $6 - 5x \geq 9$
 $-5x \geq 3$
 $x \leq -3/5$
 $(-\infty, -3/5]$



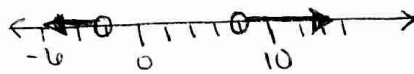
f) $-14 - |x| < -18$
 $|4 - x| > 18$
 $4 - x > 18$ OR $4 - x < -18$
 $-x > 14$ $-x < -22$
 $x < -14$ OR $x > 22$
 $(-\infty, -14)$ U $(22, \infty)$



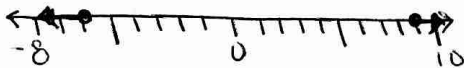
b) $7 + 10x \leq 13x - 8$
 $15 \leq 3x$
 $5 \leq x$
 $[5, \infty)$



g) $|6 - 2x| > 10$
 $6 - 2x > 10$ OR $6 - 2x < -10$
 $-2x > 4$ $-2x < -16$
 $x < -2$ $x > 8$
 $(-\infty, -2) \cup (8, \infty)$



c) $2x - 3 \geq 15$ OR $2x - 3 \leq -15$
 $2x \geq 18$ $2x \leq -12$
 $x \geq 9$ $x \leq -6$
 $(-\infty, -6] \cup [9, \infty)$



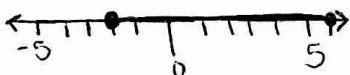
2. $x \rightarrow$ alfalfa
 $y \rightarrow$ soy beans
 $x + y \leq 50$ $x \geq 0$
 $y \geq 0$
 $20x + 30y \leq 1200$
 $P = 250x + 300y$

see graph on next page

$(0, 40) \rightarrow 250(0) + 300(40) = 12000$
 $(30, 20) \rightarrow 250(30) + 300(20) = 13500 \checkmark$
 $(50, 0) \rightarrow 250(50) + 300(0) = 12,500$

30 acres of alfalfa, 20 acres of soy beans.

e) $|x - 2| \leq 4$
 $-4 \leq x - 2 \leq 4$
 $-2 \leq x \leq 6$
 $[-2, 6]$

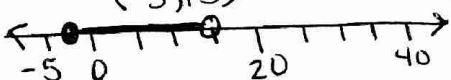


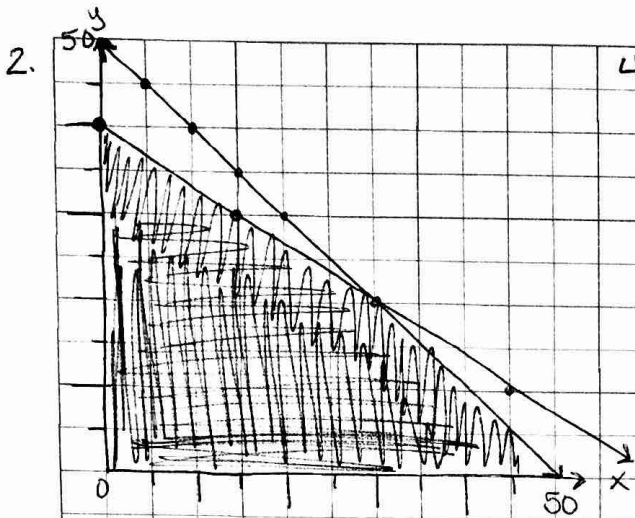
3. $x \rightarrow$ homer-hitter
 $y \rightarrow$ big timber
 $8x + 5y \leq 80 \rightarrow y \leq -8/5x + 16$ $x \geq 0, y \geq 0$
 $2x + 5y \leq 50 \rightarrow y \leq -2/5x + 10$
 see graph on next page

$P = 17x + 29y$
 $(0, 10) \rightarrow 17(0) + 29(10) = 290$
 $(5, 8) \rightarrow 17(5) + 29(8) = 317 \checkmark$
 $(10, 0) \rightarrow 17(10) + 29(0) = 170$

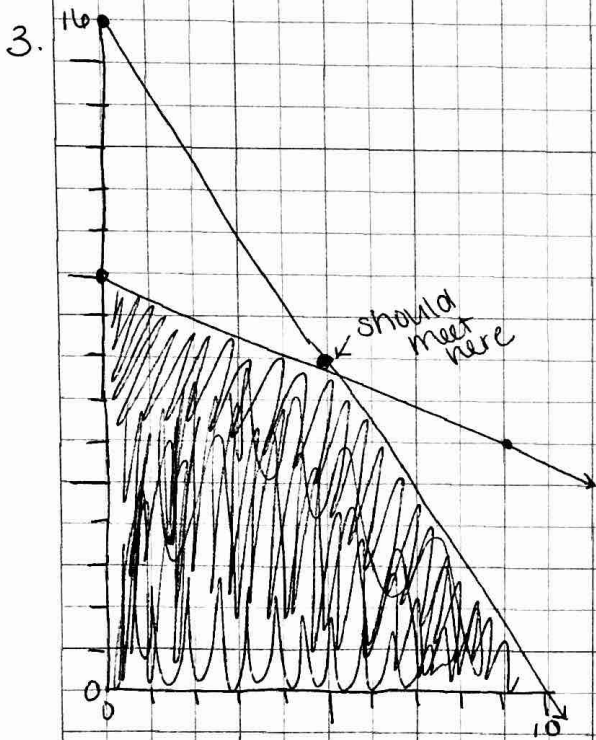
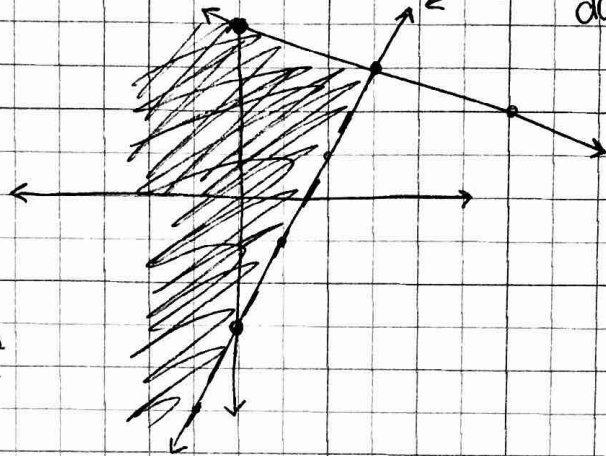
5 homer hitters & 8 big timbers

d) $-3 < 1/3x - 2 < 3$
 $-1 < 1/3x < 5$
 $-3 < x < 15$
 $(-3, 15)$ *both open circles*

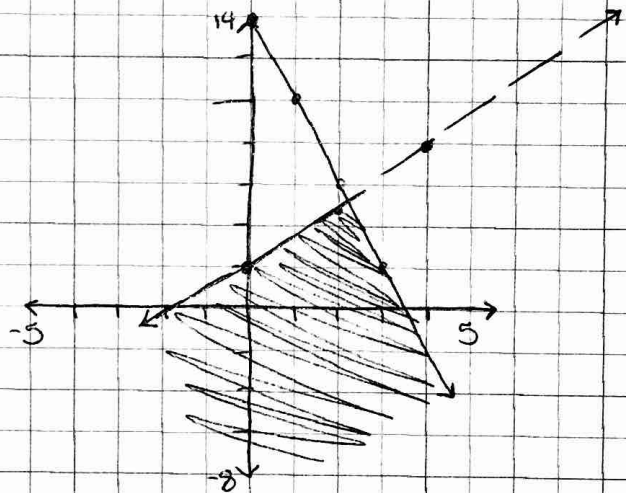




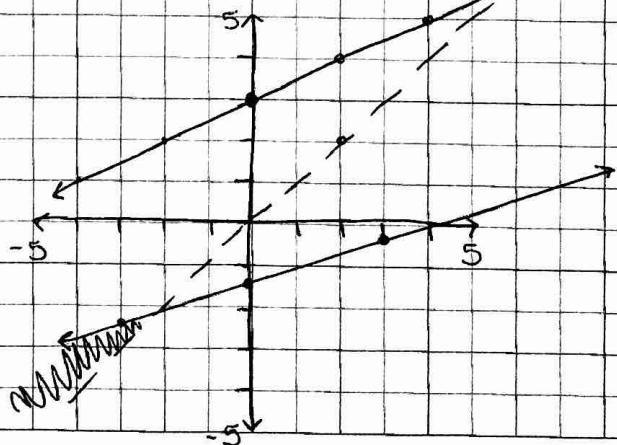
4. a) $y > 2x - 3$, $y \leq -\frac{1}{3}x + 4$ ← should be dashed



b) $y < \frac{3}{2}x + 2$, $y \leq -4x + 14$



c) $y > x$, $y \leq \frac{1}{2}x + 3$, $y \leq \frac{1}{3}x - \frac{4}{3}$



$$5a) y > -\frac{4}{3}x - 2$$

$$y \leq 3x + 1$$

5b)

$$y \leq 3$$

$$x > -4$$

$$y > -\frac{3}{4}x - 6$$

$$y \geq 2x + 4$$