Textbook Problems

pg 230 # 7, 9, 15, 25, 27

pg. 231 #43, 46-48

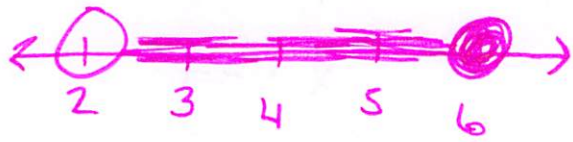
7) $2 < 3n - 4 \leq 14$

$+4 \quad +4 \quad +4$

$\frac{6}{3} < \frac{3n}{3} \leq \frac{18}{3}$

$\boxed{2 < n \leq 6}$

$(2, 6]$



9) $-2 < -3x + 7 < 4$

$-7 \quad -7 \quad -7$

$\frac{-9}{-3} < \frac{-3x}{-3} < \frac{-3}{-3}$

$\boxed{3 > x > 1}$

$(1, 3)$

15) $4 \cdot \frac{1}{2} < \frac{3x-1}{4} \cdot 4 < 5 \cdot 4$

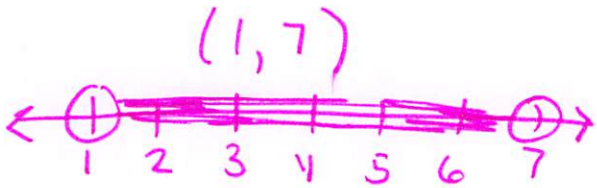
$2 < 3x - 1 < 20$

$+1 \quad +1 \quad +1$

$\frac{3}{3} < \frac{3x}{3} < \frac{21}{3}$

$\boxed{1 < x < 7}$

$(1, 7)$

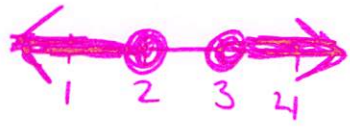


25) $7 - 3c \geq 1$ or $5c + 2 \geq 17$

$-7 \quad -7$ $\quad$ $-2 \quad -2$

$\frac{-3c}{-3} \geq \frac{-6}{-3}$ $\quad$ $\frac{5c}{5} \geq \frac{15}{5}$

$c \leq 2$ $\quad$ $c \geq 3$

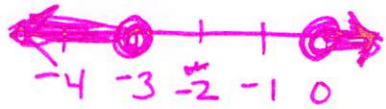


27) $2d + 5 \leq -1$ or $-2d + 5 \leq 5$

$-5 \quad -5$ $\quad$ $-5 \quad -5$

$\frac{2d}{2} \leq \frac{-6}{2}$ $\quad$ $\frac{-2d}{-2} \leq \frac{0}{-2}$

$d \leq -3$ $\quad$ $d \geq 0$



43) See Geometry Example

If x is longest side

$12 + 18 > x$ AND $30 > x$

If 18 is longest side

$12 + x > 18$

$-12 \quad -12$

$x > 6$

$6 < x < 30$

ft ft

for the 3rd Side

46) $66 \leq C \leq 88$

47) $15 \leq D \leq 30$

48) Lowest and Highest Considering All Months

Charlotte: $29 \leq C \leq 90$

Detroit $15 \leq D \leq 83$

55) $15 < \frac{1}{2}(x + x+2 + x+4) < 21$

Let x = 1st Even #

Let $x+2$ = 2nd Even #

Let $x+4$ = 3rd Even #

$15 < \frac{1}{2}(3x + 6) < 21$

$15 < \frac{3}{2}x + 3 < 21$

$-3 \quad -3 \quad -3$

$\frac{2}{3} \cdot 12 < \frac{2}{3} \cdot \frac{3}{2} x < 18 \cdot \frac{2}{3}$

$8 < x < 12$

$x = 10$

$x+2 = 12$

$x+4 = 14$

Only Even Integer is 10 in this range