Evaluate

6. $\sum_{n=1}^{22} 4-2n$

$S_{22} = \frac{22(2+(-40))}{2}$

$= \boxed{-418}$

7. $\sum_{n=1}^{15} [7+3(n-1)]$

$S_{15} = \frac{15(7+49)}{2}$

$= \boxed{420}$

8. $7+11+15+\ldots+111$

a_1 a_n

$111 = 7+4(n-1)$

$104 = 4(n-1)$

$26 = n-1$

$27 = n$

$S_{27} = \frac{27(7+111)}{2} = \boxed{1593}$

Write the following using sigma notation

9. $2+8+14+\ldots+a_{14}$

$\sum_{n=1}^{14} 2+6(n-1)$

10. $17+13+9+\ldots-111$

$-111 = 17-4(n-1)$

$-128 = -4(n-1)$

$32 = n-1$

$33 = n$

$\sum_{n=1}^{33} 17-4(n-1)$

Find the missing piece

11. $S_{25} = 2225$, $a_{25} = 161$ find a_1

$2225 = \frac{25(a_1+161)}{2}$

$178 = a_1 + 161$

$\boxed{17 = a_1}$

12. $S_n = -476$, $a_1 = 12$, $a_n = -68$ find n

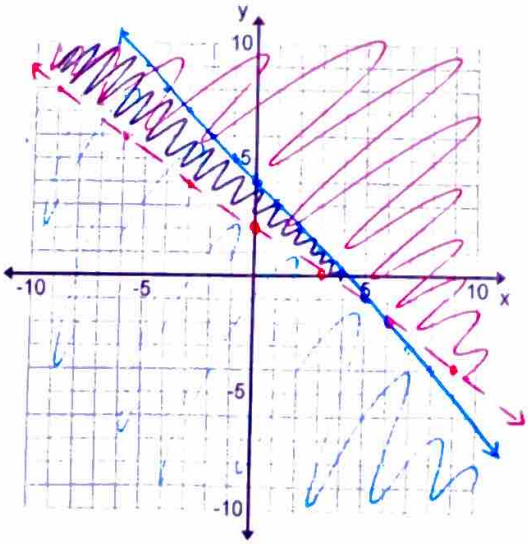
$-476 = \frac{n(12-68)}{2}$

$-952 = -56n$

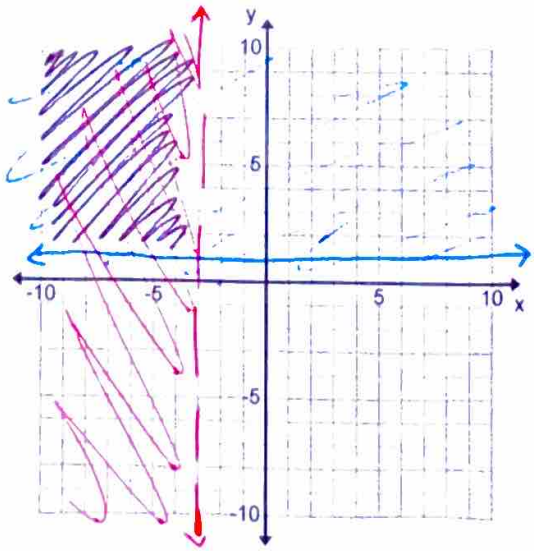
$\boxed{17 = n}$

Graphing the inequalities.

13. $2x+3y>6$ → $3y > 6-2x$
$y \le -x+4$ $y > 2 - \frac{2}{3}x$



14. $x<-3$
$y \ge 1$



Chapter 1B Review Worksheet

1. Solve using your graphing calculator: $-2(x+3)^2+5=|x+3|+2$

$X=-2$ & $X=-4$

2. A landscaper is building a courtyard using square tiles. The courtyard needs 115 rows of tile. The landscaper uses 7 tiles for the first row and 13 tiles for the 4th row. How many tiles did he need for the 19th row?

$a_1=7$

$a_4=13$

$\frac{13-7}{4-1}=\frac{6}{3}=2$

$a_{19}=7+2(19-1)=\boxed{43 \text{ tiles}}$

3. Find using your graphing calculator $x^2+6x-7<0$

$(-7,1)$

4. Solve using your graphing calculator $3x-15=-2|x+1|+2$

$X=3$

5. Use the sequence $-6,-4.5,-3,-1.5...$ to answer the following questions

a. Write the recursive formula

$a_n=\begin{cases}-6 & n=1\\ a_{n-1}+1.5 & n>1\end{cases}$

b. Write the explicit formula

$a_n=-6+1.5(n-1)$

c. Find a_{17}

$a_{17}=-6+1.5(16)$

$=\boxed{18}$

d. Find the sum of the first 20 terms.

$S_{20}=\frac{20(-6+22.5)}{2}$

$S_{20}=\boxed{165}$