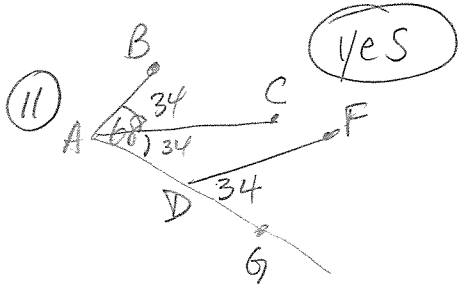
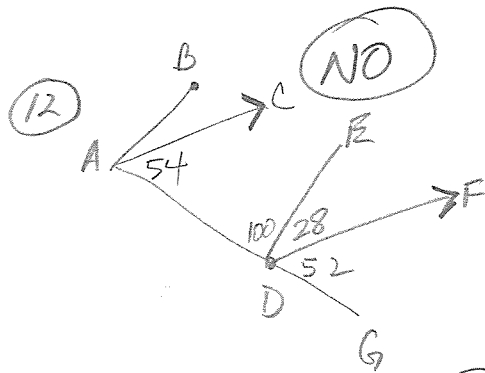


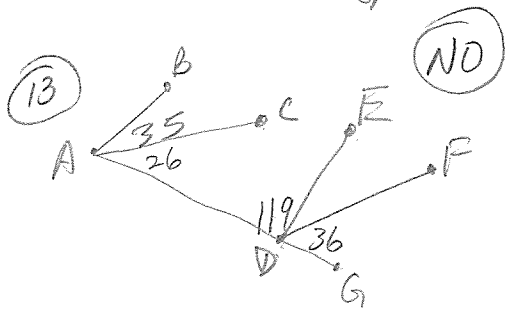
Assume parallel
Then corresp. \angle s should =.
Check them out:
 $m\angle CAD = 42 - 25 = 17$,
So $m\angle CAD = m\angle FDG$.
Therefore $\overline{AC} \parallel \overline{DF}$. **Answer**



yes, $\overline{AC} \parallel \overline{DF}$
b/c $m\angle CAD = 34$.
So $m\angle CAD = m\angle FDG$.
Corresp. \angle s \cong .



$m\angle FDG = 180 - 128 = 52$
Since $m\angle CAD \neq m\angle FDG$,
 \overline{AC} is not parallel \overline{DF} .



$m\angle CAD = 61 - 35 = 26$
 $m\angle FDG = 180 - 144 = 36$
Since $m\angle CAD \neq m\angle FDG$,
 \overline{AC} is NOT parallel \overline{DF} .

14) $m\angle 1 = m\angle 4$
 $3x + 13 = 4x - 6$
 $13 = x - 6$
 $19 = x$

15) $m\angle 3 + m\angle 5 = 180$
 $4x + 2 + 8x - 2 = 180$
 $12x = 180$
 $x = 15$

16) $m\angle 2 = m\angle 5$
 $\frac{2}{3}x - 16 = 24$
 $\frac{2}{3}x = 40$
 $x = 60$

17) $m\angle 1 = m\angle 6$
 $2x + 12 = \frac{3}{4}x + 27$
 $\frac{1}{4}x = 15$
 $x = 12$

18) $m\angle 2 = m\angle 5$
 $x^2 + 7x = 9x + 3$
 $x^2 - 2x - 3 = 0$
 $(x - 3)(x + 1) = 0$
 $x = 3$ $x = -1$
OMIT

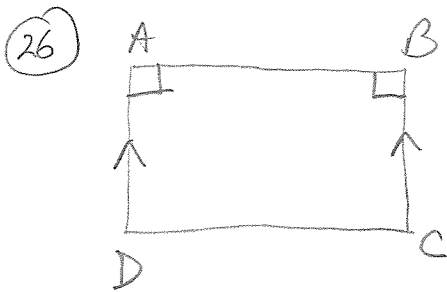
19) $m\angle 3 + m\angle 5 = 180$
 $x^2 + 8x + 4x + 20 = 180$
 $x^2 + 12x - 160 = 0$
 $(x + 20)(x - 8) = 0$
 $x = -20$ **$x = 8$**
OMIT

21 $\begin{cases} x+y = x-y \\ x-y = 118 \end{cases} \rightarrow \begin{cases} 2y=0 \\ y=0 \end{cases}$
 $x=118$
 ck $\begin{array}{r} 118 \\ 118 \\ \hline 118 \end{array} \checkmark$

22 $\begin{cases} 2x-y = x+2y \\ x+2y = 75 \end{cases} \rightarrow \begin{cases} x-3y=0 \\ -x+3y=0 \end{cases}$
 $5y=75$
 $y=15$
 $x+2y=75$
 $x+30=75$
 $x=45$
 ck $\begin{array}{r} 75 \\ 75 \\ \hline 75 \end{array} \checkmark$

23 $\begin{cases} 6x-3y = 2x-8y \\ 2x-8y = 126 \end{cases} \rightarrow 4x+5y=0$
 $-4x+16y = -252$
 $4x+5y = 0$
 $21y = -252$
 $y = -12$
 ck $\begin{array}{r} 126 \\ 126 \\ \hline 126 \end{array} \checkmark$
 $2x-8y=126$
 $2x-8(-12)=126$
 $2x=30$
 $x=15$

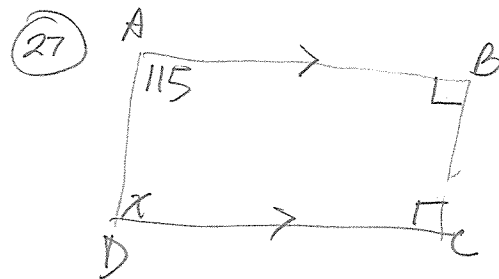
24 $\begin{cases} x-3y = 63 \\ 7x-2y+2 = 63 \end{cases} \rightarrow \begin{cases} x-3y = 63 \\ 7x-2y = 61 \end{cases}$
 $7x-2y = 61$
 $-7x+21y = -441$
 $19y = -380$
 $y = -20$
 $x-3(-20) = 63$
 $x = 3$
 $\begin{array}{r} 63 \\ 63 \\ \hline 63 \end{array} \checkmark$



$\overline{AD} \parallel \overline{BC}$

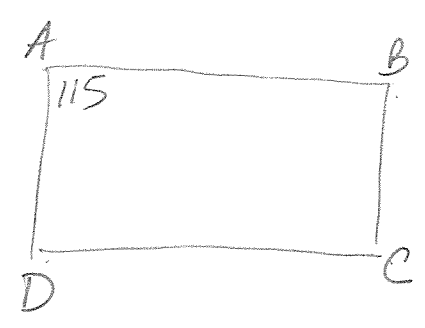
① Two lines \perp to same line are parallel.

② 2 lines with same side interior \angle s supplementary \rightarrow parallel lines.

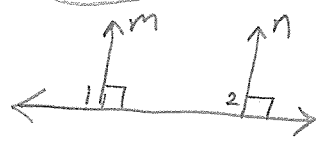


$\begin{array}{r} 180 \\ -115 \\ \hline 65 \end{array} \quad \boxed{m\angle ADC = 65}$

28



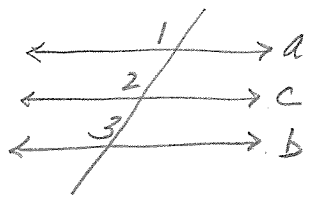
G: $m \perp P, n \perp P$
 P: $m \parallel n$



① $m \perp P$
 $n \perp P$ } \rightarrow ② $m \parallel n$

- ① Given
- ② 2 lines \perp to same line are \parallel each other.

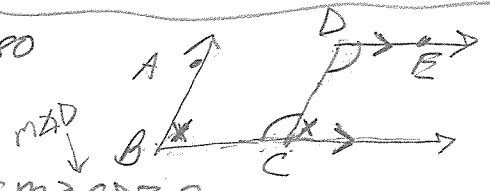
G: $a \parallel c, b \parallel c$
 P: $a \parallel b$



① $a \parallel c$
 $b \parallel c$ } \rightarrow ② $a \parallel b$

- ① Given
- ② 2 lines parallel to 3rd line are parallel to each other.

G: $\angle BCD \cong \angle CDE, m\angle B + m\angle D = 180$
 P: $\overline{AB} \parallel \overline{DC}$



① $\angle BCD \cong \angle CDE \rightarrow$ ② $m\angle BCD = m\angle CDE$
 ③ $m\angle B + m\angle D = 180$ } \rightarrow ④ $m\angle B + m\angle BCD = 180$

⑤ $\overline{AB} \parallel \overline{DC}$

