

Day 84

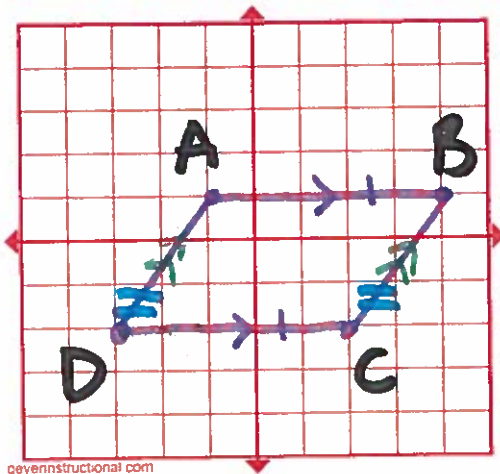
## 6.2 Properties of Parallelograms

Parallelogram:

opposite sides are parallel



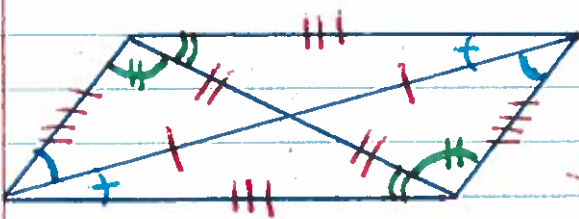
opposite angles are  $\cong$   
consecutive  $\angle$ s are supplementary



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$$\begin{aligned} \angle A &\cong \angle C \\ \angle B &\cong \angle D \end{aligned}$$

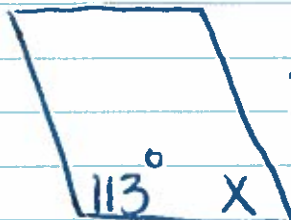
$$\begin{aligned} \angle A + \angle B &= 180^\circ & \angle C + \angle D &= 180^\circ \\ \angle B + \angle C &= 180^\circ & \angle D + \angle A &= 180^\circ \end{aligned}$$



Diagonals bisect each other

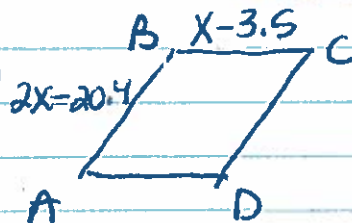
They do not bisect the angles

P. 315 (2)



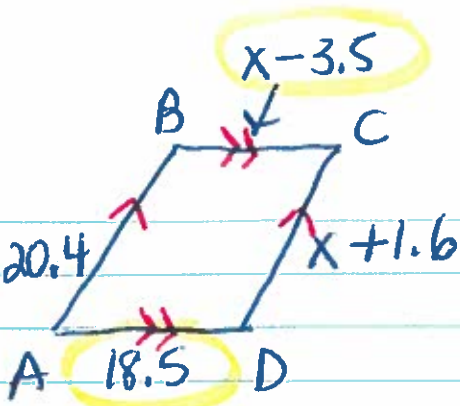
$$x = 180 - 113 = 67^\circ$$

(8)



8.

$2x - 20.4$



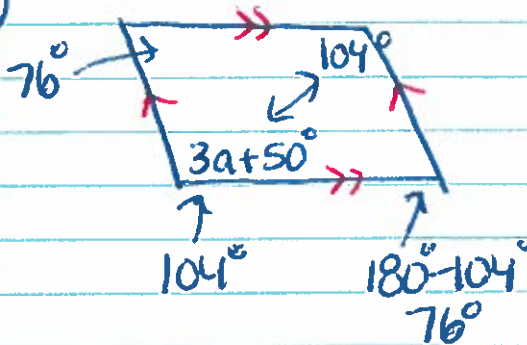
Find the value of  $x$ .

$$\begin{array}{r} x - 3.5 = 18.5 \\ + 3.5 \quad + 3.5 \\ \hline x = 22 \end{array}$$

$BC = 22 - 3.5 = 18.5$

$AB = CD = 22 + 1.6 = 23.6$

10.



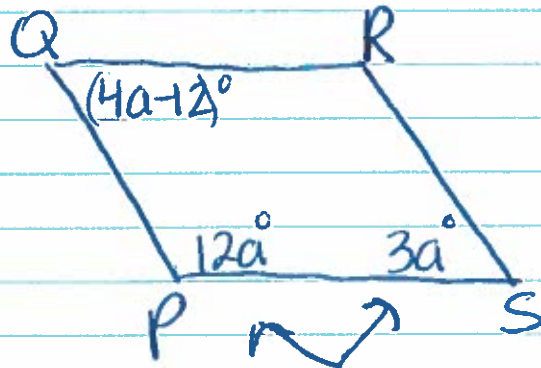
Find the value of  $a$ .  
Opp.  $\angle$ 's are  $\cong$

$$\begin{array}{r} 3a + 50 = 104 \\ - 50 \quad - 50 \\ \hline 3a = 54 \end{array}$$

$$\begin{array}{r} 3a = 54 \\ \hline 3 \quad 3 \\ \hline a = 18 \end{array}$$

$a = 18$

12.



Find  $a$  and all the  $\angle$  measures.

$$\begin{array}{r} 12a + 3a = 180 \\ 15a = 180 \\ \hline 15 \quad 15 \\ \hline a = 12 \end{array}$$

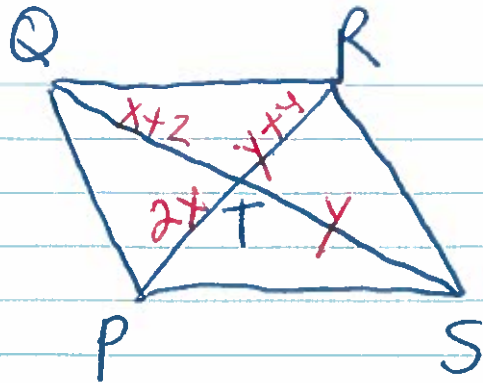
$a = 12$

Consecutive  $\angle$ 's are Supplementary

$$\begin{array}{l} \angle S = 3 \cdot 12 = 36^\circ \\ \angle Q = 36^\circ \end{array}$$

$\angle P = 12 \cdot 12 = 144^\circ$

$\angle R = 144^\circ$

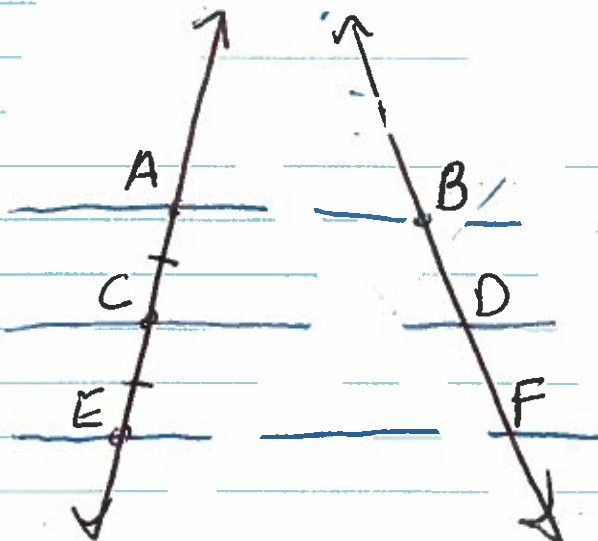


Find  $x+y$ .

14)  $PT = 2x$   $TR = y+4$   $QT = x+2$   $TS = y$

$$\begin{aligned}
 & QT = TS & PT = TR \\
 & x+2 = y & 2x = y+4 \\
 & 2x = x+2+4 & \\
 & -x & +x \\
 & \boxed{x = 6} \\
 & 6+2 = y \\
 & \boxed{8 = y}
 \end{aligned}$$

If  $\overline{AC} \cong \overline{CE}$  then  $\overline{BD} \cong \overline{DF}$ .



look at  
Thm  
6.4  
on  
p. 315  
19-29

