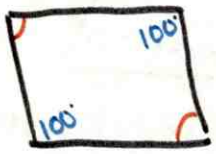
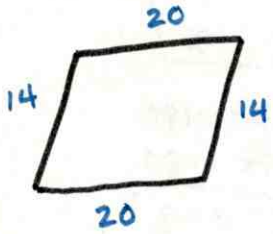
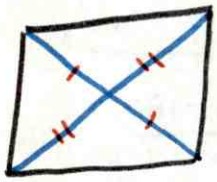
8.3

4) 

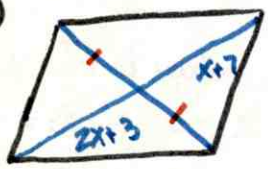
opp. $\angle$s $\cong$

5) 

opp. sides $\cong$

6) 

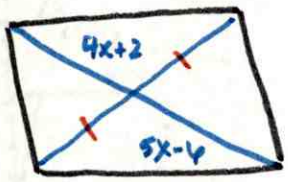
diagonals bisect

8) 

$2x+3 = x+7$

$x+3 = 7$

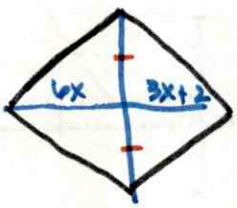
$\boxed{x = 4}$

9) 

$5x-6 = 4x+2$

$x-6 = 2$

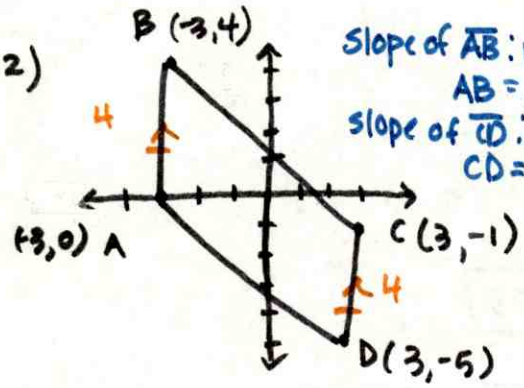
$\boxed{x = 8}$

10) 

$6x = 3x+2$

$3x = 2$

$\boxed{x = 2/3}$

12) 

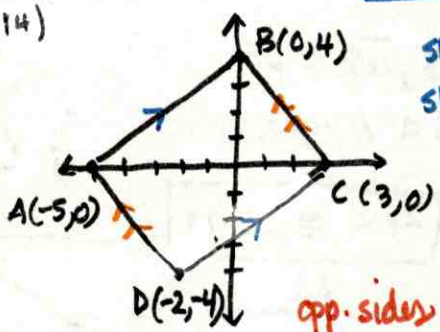
slope of $\overline{AB}$: m = undefined

$AB = 4$

slope of $\overline{CD}$: undefined

$CD = 4$

one pair of opp. sides $\cong$ and $\parallel$

14) 

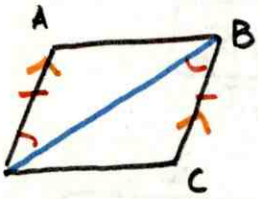
slope of $\overline{AB}$: $m = \frac{4}{5}$

slope of $\overline{CD}$: $m = \frac{4}{5}$

slope of $\overline{BC}$: $\frac{-4}{3}$

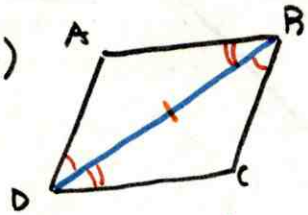
slope of $\overline{AD}$: $\frac{-4}{3}$

opp. sides $\parallel$ (Def. of $\parallel$-gram)

15) 

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

ABCD is a $\parallel$-gram one pair $\cong$ and $\parallel$

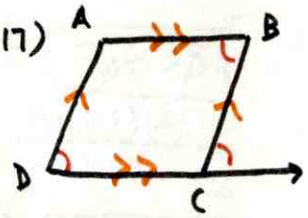
16) 

$\overline{BD} \cong \overline{BD}$ Reflexive

$\triangle ADB \cong \triangle CBD$ ASA

$\overline{AB} \cong \overline{CD}$ and $\overline{AD} \cong \overline{BC}$ CPCTC

ABCD is a $\parallel$-gram opp. sides $\cong$

17) 

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

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

ABCD is a $\parallel$-gram Def of $\parallel$-gram

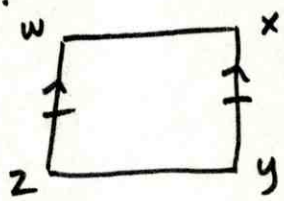
18) In quadrilateral WXYZ, $\overline{WZ}$ and $\overline{XY}$ are $\cong$ and parallel. Which is not true?

A $m\angle Y + m\angle W = 180°$

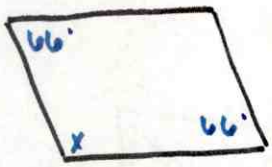
B $\angle X \cong \angle Z$

C $\overline{WX} \cong \overline{ZY}$

D $\overline{WX} \parallel \overline{ZY}$



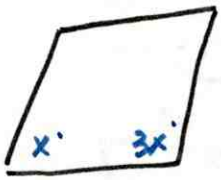
19)



$x + 66 = 180$

$\boxed{x = 114}$

20)

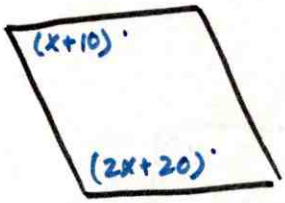


$x + 3x = 180$

$4x = 180$

$\boxed{x = 45}$

21)



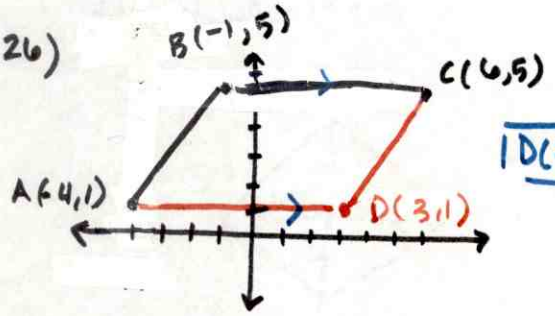
$x + 10 + 2x + 20 = 180$

$3x + 30 = 180$

$3x = 150$

$\boxed{x = 50}$

26)



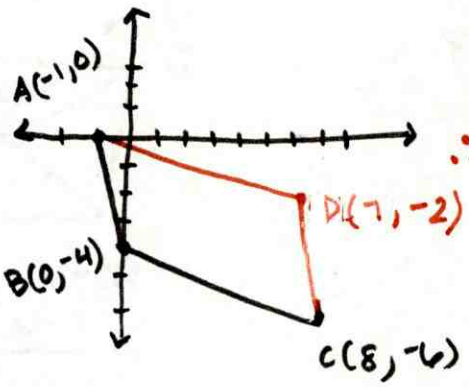
$\boxed{D(3,1)}$

slope of $\overline{BC}$: $m = 0$ | slope of $\overline{AD}$: $m = 0$

$BC = 7$ | $AD = 7$

$-4 + 7 = 3$

28)



slope of $\overline{AB}$: $m = -4$

$\therefore$ slope of $\overline{CD}$: $m = -4$

C(8,-6)

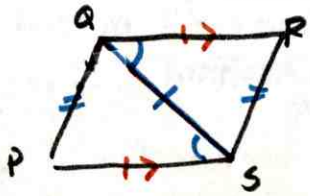
-1 +4

7, -2

$\boxed{D(7,-2)}$

33) Given: $\overline{QR} \parallel \overline{PS}$, $\overline{QR} \cong \overline{PS}$

Prove: PQRS is a $\parallel$-gram



$\overline{QR} \parallel \overline{PS}$ — Given → $\angle PSQ \cong \angle RQS$ — AI → $\triangle RSQ \cong \triangle PQS$ — SAS → $\overline{RS} \cong \overline{PQ}$ — CPCTC → PQRS is a $\square$ — opp. sides $\cong$

$\overline{QS} \cong \overline{QS}$ — Reflexive → $\triangle RSQ \cong \triangle PQS$

$\overline{QR} \cong \overline{PS}$ — Given → $\triangle RSQ \cong \triangle PQS$

40)