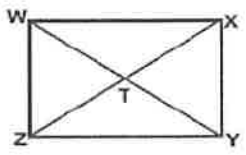
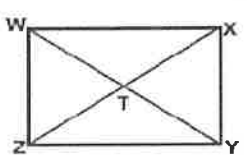
Name _____ Date _____

1) WY=19, then ZX=___?



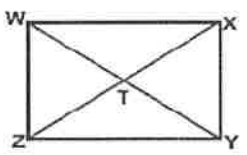
19

2) WY=19, then WT=___?



9.5

3) TX=4.5, then WY=____?

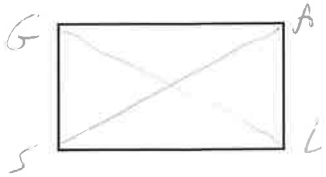


9

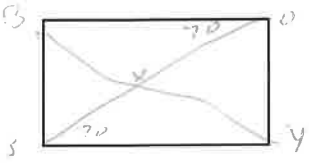
4) Rectangle GALS has diagonals $\overline{GL}$ and $\overline{AS}$. If GL=3a+6 and AS=5a-18, then a=__?

$3a + 6 = 5a - 18$

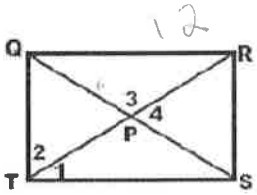
$a = 12$



5) Rectangle BOYS has diagonals $\overline{BY}$ and $\overline{OS}$, that intersect at X. If $m\angle XOB = 70°$, then $m\angle YSO =$ ___? $m\angle BSO =$ ___?

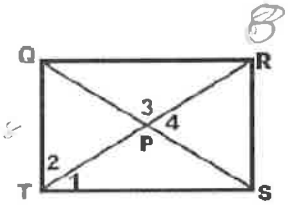


6) QP=6, then RT=___?



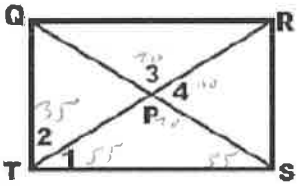
12

7) QT=8, then RS=___?



8

8) $m\angle 1 = 55°$, find the measures of $\angle 2$, $\angle 3$, and $\angle 4$.

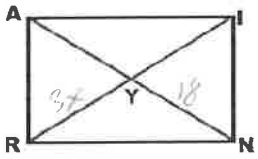


$\angle 2 = 35$

$\angle 3 = 70$

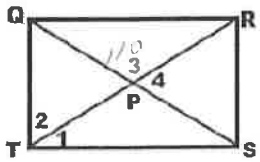
$\angle 4 = 110$

9) In rectangle RAIN, YR=3x and NY=18. Solve for x.



$x = 6$

10) $m\angle 3 = 110°$, find the measures of $\angle 1$, $\angle 2$, and $\angle 4$.



$\angle 4 = 70$

$\angle 2 = 55$

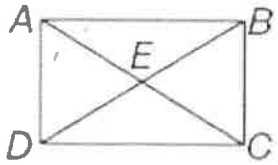
$\angle 1 = 35$

8) If $m\angle DAC = 2x+4$ and $m\angle BAC = 3x+1$, find $m\angle BAC$.

$2x+4+3x+1=90$

$x=17$ $\quad 3(17)+1$

52



Quadrilateral RSTU is a rectangle. Explain your reasoning.

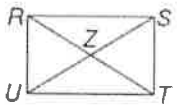
9) If UZ=x+21 and ZS=3x-15, find US.

$x+21=3x-15$

$18=x$ $\quad US=78$

$UZ=18+21$

$=39$



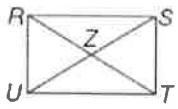
10) If RZ=3x+8 and ZS=6x-28, find UZ.

$3x+8=6x-28$

$36=3x$

$12=x$

$UZ=44$



11)If RT=5x+8 and RZ=4x+1, find ZT.

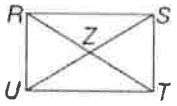
$4(4x+1)=5x+8$

$8x+2=5x+8$

$3x=6$

$x=2$

$ZT=9$



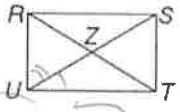
12) If $m\angle SUT = 3x+6$ and $m\angle RUS = 5x-4$, find $m\angle SUT$.

$3x+6+5x-4=90$

$8x+2=90$

$x=11$

$\angle SUT=39$

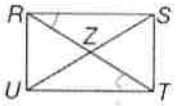


13) If $m\angle SRT = x+9$, $m\angle UTR = 2x-44$, find $m\angle UTR$.

$x+9=2x-44$

$53=x$

$\angle UTR=62$



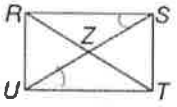
14) If $m\angle RSU = x+41$ and $m\angle TUS = 3x+9$, find $m\angle RSU$.

$x+41=3x+9$

$32=2x$

$16=x$

$\angle RSU=57$



Quadrilateral GHJK is a rectangle. Find each measure if $m\angle 1 = 37$. **Explain** your reasoning.

15) $m\angle 2$ 53

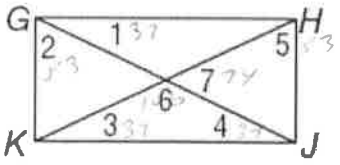
16) $m\angle 3$ 37

17) $m\angle 4$ 37

18) $m\angle 5$ 53

19) $m\angle 6$ 106

20) $m\angle 7$ 74



Determine whether ABCD is a rectangle. Justify your answer.

5. $A(10, 4)$, $B(10, 8)$, $C(-4, 8)$, $D(-4, 4)$

AB $m = \frac{4}{0}$ = undef

CD $m = \frac{-4}{0}$ = undef

BC $m = \frac{0}{14} = 0$

AD $m = \frac{0}{-14} = 0$

BOTH opp pairs ||

ADJACENT are ⊥

Rectangle

6. $A(3, 7)$, $B(10, 7)$, $C(11, 12)$, $D(4, 12)$

AB $m = \frac{0}{7} = 0$

CD $m = \frac{0}{-7} = 0$

BC $m = \frac{-5}{-1} = 5$

AD $m = \frac{5}{1} = 5$

NOT A Rectangle

Just a parallelogram

Quadrilateral RSTV is a rectangle. Find the values of x and y.

1. $VW = 2x + y$
$WS = 36$
$RS = x - y$
$VT = 9$

$2x + y = 36$
$x - y = 9$

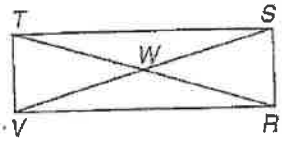
$3x = 45$

$x = 15$

$15 - y = 9$

$y = 6$

2. $VR = y$
$TS = x + 11$
$VT = y - 3x$
$RS = x + 2$



$y = x + 11$

$y - 3x = x + 2$

$-x + y = 11$

$-4x + y = 2$

$3x = 9$

$x = 3$

$y = 3 + 11$

$y = 14$