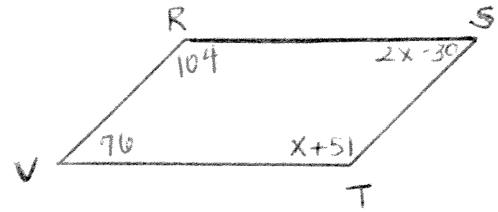
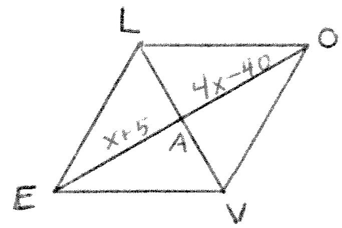
Geometry Honors
Review Worksheet – Chapter 5

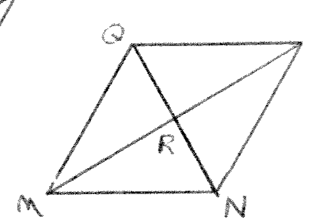
Name ____________________



1. If RSTV is a parallelogram, then m$\angle$V = 76

$2x-30+x+51=180$
$3x+21=180$ $x=53$
$3x=159$



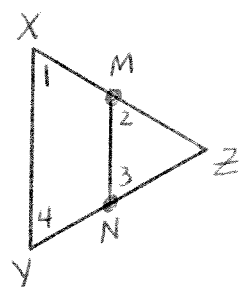


2. In parallelogram LOVE, if AE = x + 5 and AO = 4x – 40, then x = 15

3. If $\overline{MQ} \cong \overline{NP}$ and $\overline{QP} \cong \overline{MN}$, then MNPQ is a parallelogram.

a. $\overline{NM} \cong \overline{MQ}$ b. $\overline{NP} \parallel \overline{MQ}$ c. $\overline{MN} \parallel \overline{QP}$ d. $\overline{MR} \cong \overline{RP}$

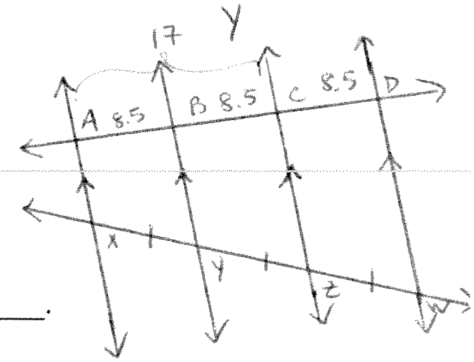
4. M and N are midpoints of $\overline{XZ}$ and $\overline{YZ}$ respectively. The statement that is not necessarily true is $\angle 1 \cong \angle 4$.



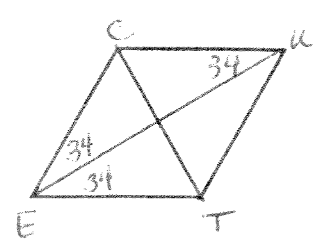
a. $\overline{YN} \cong \overline{NZ}$ b. $\angle 1 \cong \angle 4$ c. $\angle 3 \cong \angle 4$ d. MN = ½ XY

Def midpt $\angle 1 \cong \angle 2$ but not $\angle 1 \cong \angle 4$ Corr $\angle$s

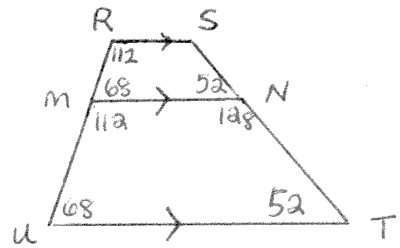
5. If AC = 17 and $\overline{XY} \cong \overline{YZ} \cong \overline{ZW}$, then CD = 8.5.



6. If CUTE is a rhombus and m$\angle$CET = 68°, then m$\angle$CUE = 34.



Refer to the diagram for examples #7-9.



7. m∠U = 68

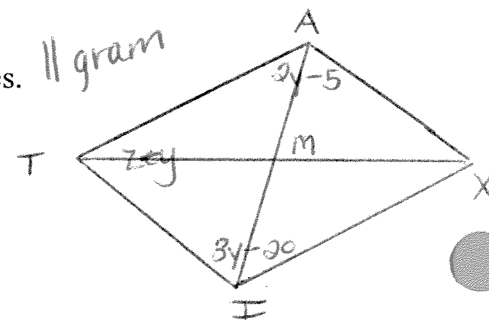
8. m∠S = 128

9. m∠MNS = 52

10. If the length of one side of rhombus SOUP is 3x – 2, what is the perimeter of the rhombus in terms of x? $4(3x-2) = 12x-8$

$P = 12x - 8$ $\qquad x =$

For examples #11 – 13, use the diagram and solve for the variables. ∥gram



11. m∠TAX = 2y – 5, m∠TIX = 3y – 20 y = 15

$15 = y$

12. AX = x + 5, TI = 4x – 40 x = 15

$45 = 3x$

13. m∠TIX = 2z + y, m∠TAX = z + 20, m ∠ATI = z – y y = –40 z = 60

$2z + y = z + 20$
$z + y = 20$

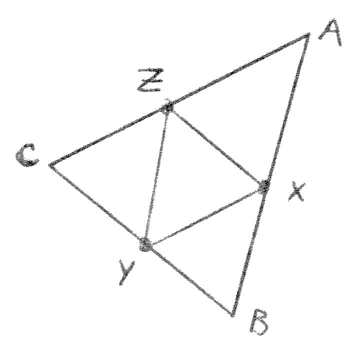
$z - y + 2y - 5 = 180$
$z + y = 185$
$-z + y = -20$

$z - y + 3y - 20 = 180$
$z + 2y = 200$
$-z + y = -20$
$y = 180$

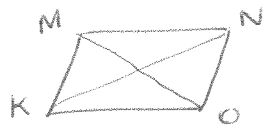
Refer to the diagram for examples #14 -15.

14. In the diagram, x, y, and z are midpoints.
If AB + BC = 63, then ZY + XZ = 31.5

15. If XY = 13.2, then AC = 26.4



16. Find x and y so that KMNO is a parallelogram.



KM = x + y   ON = 2x – 3y   m∠MKN = x + 4   m∠KNO = 3x – 12

$x+y=2x-3y$
$8+y=16-3y$
$4y=8$
$y=2$

$x+4=3x-12$
$2x=16$
$x=8$

x = 8   y = 2

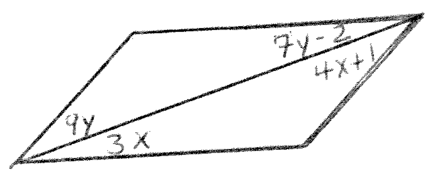
17. Given square ABCD, with AB = 4y + 12 and DC = 6y – 3, find the lengths of each side.

$4y+12=6y-3$
$2y=15$
$y=7.5$

$\frac{15}{2}\left(\frac{4}{1}\right)=30+12=42$

side = 42

18. What values must x and y have to make the quadrilateral a parallelogram?



x = 11   y = 5

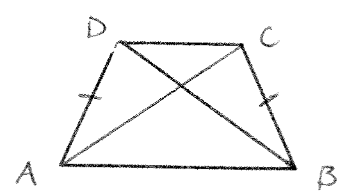
$3x=7y-2$ $9y=4x+1$

$3x-7y=-2$ → $12x-28y=-8$
$4x-9y=-1$ $-12x+27y=3$
$-y=-5$

$y=5$

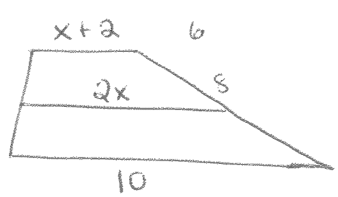
$4x+1=45$
$x=11$

19. ABCD is an isosceles trapezoid. AC = 7x and BD = 5x + 4



x = 2

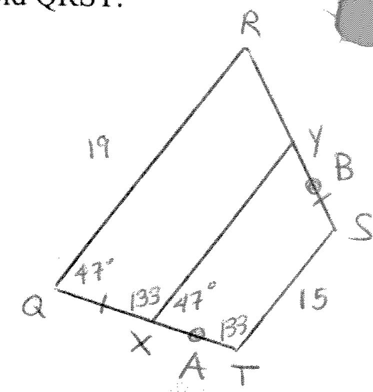
20. The length of the median of a trapezoid is 2x. The lengths of the bases are x + 2 and 10.



x = 4

$\frac{x+2+10}{2}=2x$
$x+12=4x$
$12=3x$

Refer to the diagram for examples #21 – 25. $\overline{XY}$ is the median of trapezoid QRST.



21. TS = 15 and QR = 19. XY = 17

22. XY = 54 and TS = 16. QR = 92

$\frac{16+x}{2} = 54$

$16 + x = 108$

23. QX = SY and m∠TXY = 47. m∠R = 47

24. ST = 2c – 2, QR = 5c + 8, and XY = 45. c = 12

$\frac{2c-2+5c+8}{2} = 45$

$\frac{7c+6}{2} = 45$

$7c + 6 = 90$

$7c = 84$

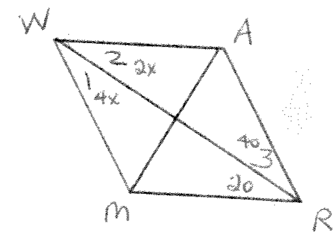
$c = 12$

25. A is the midpoint of $\overline{XT}$, B is the midpoint of $\overline{SY}$, TS = 28 and QR = 36.

AB = 30

$\frac{28+36}{2} = \frac{64}{2} = 32$ $\quad \frac{32+28}{2} = \frac{60}{2} = 30$

26. WARM is a parallelogram. m∠1= 4x, m∠2 = 2x and m∠3 = x^2 - 60



x = 10 m∠ARM = 60

$4x = x^2 - 60$

$x^2 - 4x - 60 = 0$

$(x+6)(x-10) = 0$