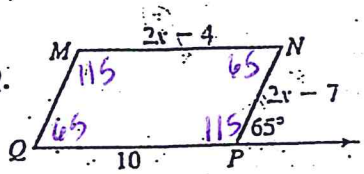
Geometry Worksheet HW#19 WRITE ON YOUR OWN PAPER!!

Chapter 5

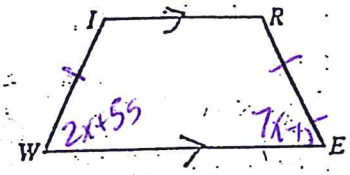
MNPQ is a parallelogram.



1. Find the measure of $\angle M$; $\angle N$; $\angle NPQ$; $\angle Q$.
2. Find the length of side $\overline{MN}$; $\overline{NP}$; $\overline{QM}$.

$\angle M = 115°$ $\angle NPQ = 115°$
$\angle N = 65°$ $\angle Q = 65°$
$\overline{MN} = 10$ $x = 7$ $\overline{NP} = 7$
$QM = 7$

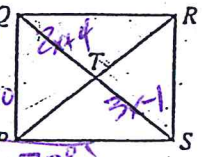
3. If $\overline{WI} \cong \overline{ER}$, $m\angle W = 2x + 55$, and $m\angle E = 7x - 15$, find x and the measures of $\angle W$ and $\angle E$.



$2x+55 = 7x-15$
$70 = 5x$
$x = 14$

$\angle W = 2(14)+55 = 83°$
$\angle E = 83°$

4. If *PQRS* is a rectangle with $QT = (2x + 4)$ cm and $TS = (3x - 1)$ cm, find *PR*. $2(5)+4 = 14 \cdot 2 = 28$



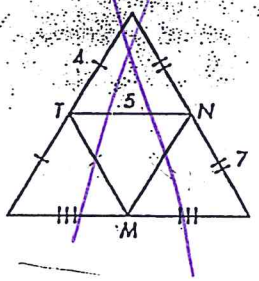
Hint: re-sketch for each problem to "look right."

5. If *PQRS* is a rhombus with $m\angle PQS = (3x + 10)$ and $m\angle SQR = (x + 40)$, find $m\angle QRS$.
$= x+40$
$x = 15$
$15+40 = 55$ so $\angle Q = 110°$ so $\angle R = 70°$

$2x+4 = 3x-1$
$5 = x$

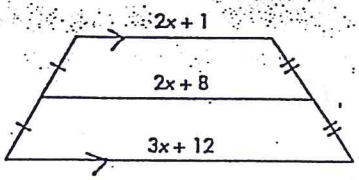
6. *PQRS* is a square with $ST = (x + 8)$ cm and $PR = (4x + 6)$ cm. Find *QT*.

7. Perimeter of ΔNTM = _____

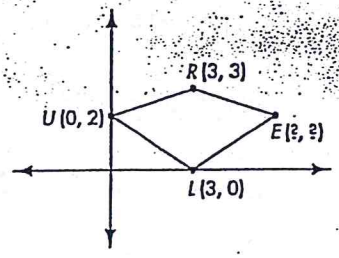


8. $x =$ 3

$\frac{2x+1+3x+12}{2} = 2x+8$

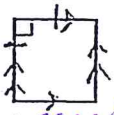


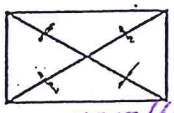
9. RULE is a kite. What are the coordinates of point *E*? (6, 2)

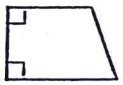


Identify each figure as a parallelogram, rectangle, rhombus, square, or none of these. Use all terms that apply.

10. 
parallelogram
rhombus

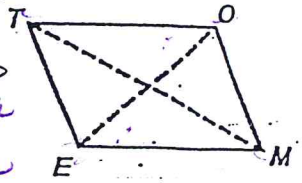
11. 
parallelogram
square
rhombus
rectangle
parallelogram

12. 
parallelogram
rectangle

13. 
none

← assume other ∠'s are not 90°

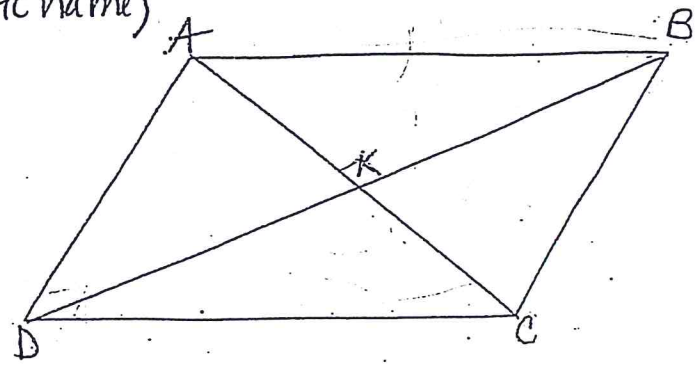
Use the given information to classify ▱*TOME* as a rectangle, rhombus, square, or none of these. ~~Use all terms that apply.~~ What could each be? ← same thing as



14. $\overline{TO} \cong \overline{ET}$ rhombus, square
15. $\overline{EO} \perp \overline{TM}$ rhombus, square
16. $m\angle EOT = m\angle OEM$ ~~rhombus~~ parallelogram – could be rect, rhom or square
17. $\overline{EM} \perp \overline{OM}$ rectangle, square
18. $m\angle OME = 90$; $\overline{TO} \cong \overline{TE}$ square

19. In ▱*QUED*, $m\angle D$ is 30 greater than $m\angle E$. Find the measures of each of the angles. 75°, 105°

Tell if the parallelogram ~~is~~ must be a rectangle, rhombus, square, or none of these. (the most specific name)



1) $\overline{AB} \cong \overline{BC}$ rhombus

2) $\overline{AB} \cong \overline{DC}$ none

3) $\overline{AD} \perp \overline{DC}$ rectangle

4) $\overline{AC} \cong \overline{DB}$ and $\overline{AC} \perp \overline{DB}$ Square

5) K is the midpoint of $\overline{AC}$ and $\overline{BD}$ none

6) $\angle BCD \cong \angle ABC$ rectangle

Are the following statements always, sometimes, or never true?

1) Opposite sides of a rectangle are parallel. A

2) Diagonals of a rhombus are perpendicular. A

3) Diagonals of a rhombus are congruent. S

4) Opposite sides of a parallelogram are congruent. A

For Questions 1-4, write the letter of every special quadrilayeral that has the given property. (could be)

a. parallelogram	b. rectangle	c. rhombus
d. square	e. trapeziod	f. isosceles trapezoid

1. Both pairs of opposite sides parallel a, b, c, d
2. Exactly one pair of opposite sides are parallel ~~a, b, c, d~~ e, f
3. Both pairs of opposite sides congruent a, b, c, d
4. Diagonals bisect each other. a, b, c, d.
5. Diagonals are congruent and bisect each other. b, d