Name:_____

Unit 4 Worksheets

Geometry   Name: _____

Worksheet 4 – 1   Date: _____ Period:_____
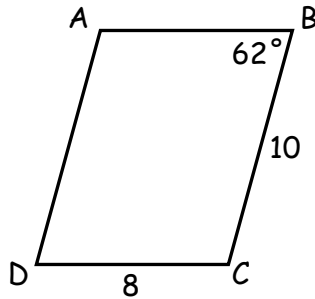
_____

For each parallelogram below, find the values of the missing sides or angles.

1) AB = _____

AD = _____

$m\angle A$ = _____

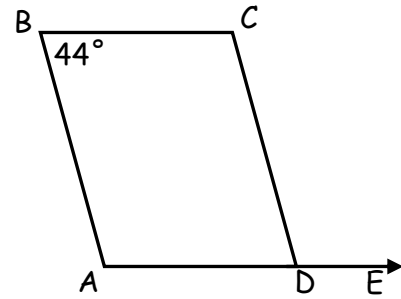$m\angle D$ = _____

A _____ B
$62°$
10
D _____ C
8

2) $m\angle A$ = _____

$m\angle BCD$ = _____

$m\angle CDE$ = _____

B _____ C
$44°$
A _____ D E

3) $m\angle DCA$ = _____

$m\angle CAD$ = _____

$m\angle CBA$ = _____
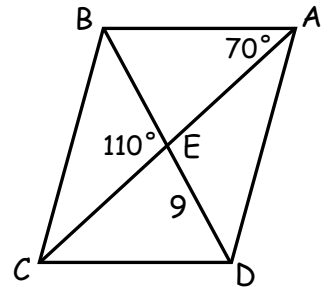
D _____ C
$83°$
$56°$
A _____ B

4) $m\angle ECD$ = _____

$m\angle AED$ = _____

$m\angle ABD$ = _____

BD = _____
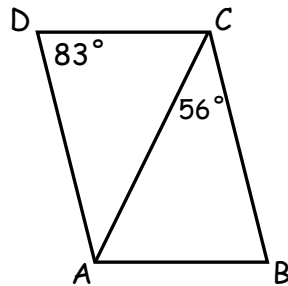
B _____ A
$70°$
$110°$ E
9
C _____ D

For problems 5 – 10, ABCD is a parallelogram. Find each unknown measure.

5) If m∠DAB = 80°,then m∠ABC = _____   6) If m∠ADC = 127°,then m∠CBA = _____
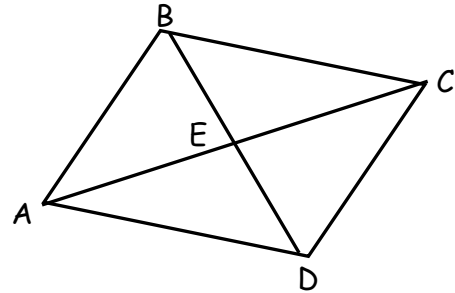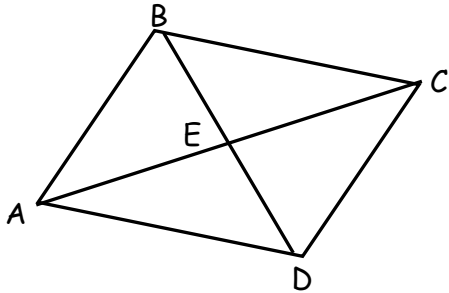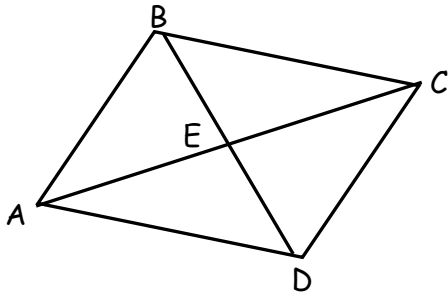
7) If DE = 6,then EB = _____ & DB = _____   8) If DC = 14, then AB = _____
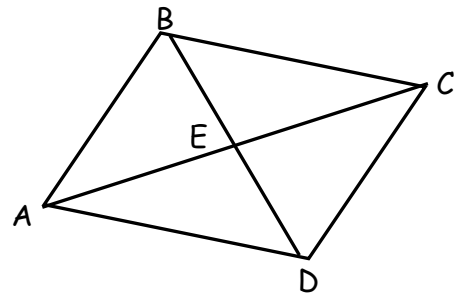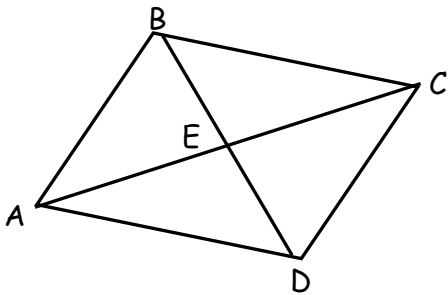
9) If AD = 3x + 6 and BC = x + 18, then x = _____ & AD = _____
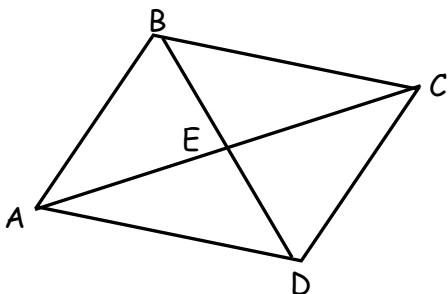
10) If m∠CDB = 30° and m∠DBC = 40°, then m∠DBA = _____ and m∠DAB = _____.

Geometry   Name: _____

Worksheet 4 – 2   Date: _____ Period:_____

_____

For problems 1-9, use rectangle QUAD. <u>*Treat each problem independently.*</u>

1) If $DP = 4x + 1$ and $PA = x + 13$, then $DP =$ _____

2) If $DU = 5x - 4$ and $QP = 2x + 7$, then $DU =$ _____

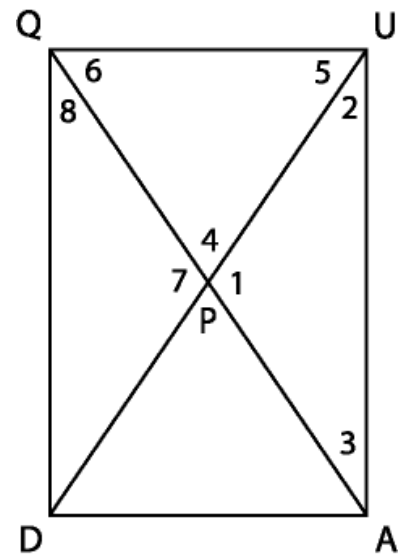3) If $m\angle 2 = 12x + 4$ and $m\angle 3 = 16x - 12$, then $m\angle 3 =$ _____

4) If $m\angle 5 = 12x - 3$ and $m\angle 6 = 10x + 9$, then $m\angle 4 =$ _____

5) If $m\angle 4 = 6x - 16$ and $m\angle 8 = 2x + 4$, then $m\angle 4 =$ _____

6) If $m\angle 3 = 18x - 8$ and $m\angle 6 = 70 - 4x$, then $m\angle 6 =$ _____

7) If $m\angle 2 = 32°$ and $DU = 12$, then $DA =$ _____, $AU =$ _____ and perimeter of $QUAD =$ _____

8) If $QD = 8$ and $AD = 6$, then $QA =$ _____

9) Classify the following triangles by their sides:

    a. $\triangle DPA$ is _____   b. $\triangle UPQ$ is _____
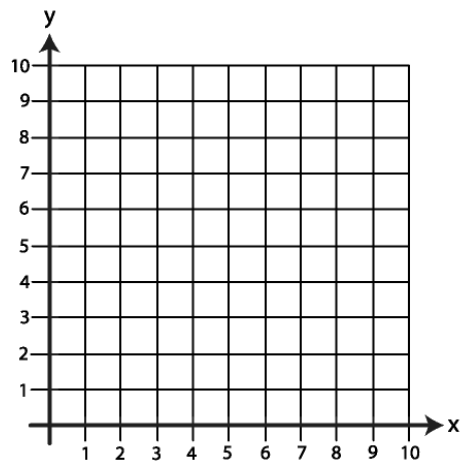
    c. $\triangle QPD$ is _____   d. $\triangle APU$ is _____

    e. Explain why these triangles are classified as such.

10) Determine if the quadrilateral with the given vertices is a parallelogram. <u>**You must verify your answer by comparing the slopes of the opposite sides of the parallelogram**</u>.

    A (1, 1), B (3, 7), C (9, 9) and D (8, 3)

Geometry   Name: _____

Worksheet 4 – 3   Date: _____ Period:_____

_____

- A rhombus is a parallelogram with four congruent sides, perpendicular diagonals, and the diagonals bisect a pair of opposite angles.

- A square is a parallelogram with all the properties of a rectangle and rhombus.

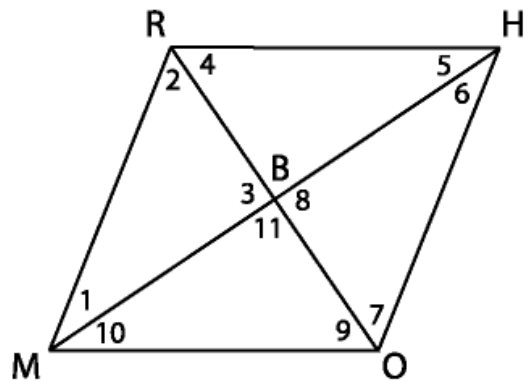**RHOM is a rhombus. Find the unknown measures. (Treat each problem independently.)**

11) If OB = 2x + 1 and BR = 3x - 10, then OR = _____

12) If RM = 18, then RH = _____, OH = _____, OM = _____

13) If $m\angle 2 = 48°$, then $m\angle MOH$= _____

14) If $m\angle 7 = 61°$, then $m\angle RHO$= _____

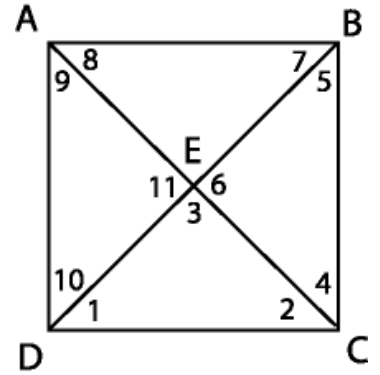**15)** If $m\angle 3 = 8x - 6$, then x = _____

ABCD is a square. Find the unknown measures. (Treat each problem independently.)

16) If $AE = 3x - 2$ and $EC = 2x + 3$, then $DB = $ _____

17) If $AD = 2x - 1$ and $BC = 5x - 13$, then

  $AD = $ _____, $BC = $ _____, $AB = $ _____, $DC = $ _____

- **A trapezoid is a quadrilateral with exactly one pair of parallel sides.**

- **In an isosceles trapezoid, the legs, both pairs of base angles and the diagonals are congruent.**
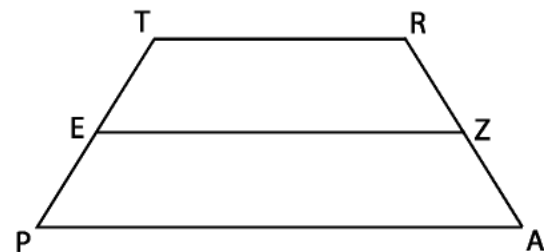
TRAP is an isosceles trapezoid with median EZ. Find the unknown measures.

18) If *TP* = 2*x* + 3 and *RA* = 3*x* - 2, then *TP* = _____

19) If *TR* = 7*x* – 5, *PA* = 9*x* + 1, and *EZ* = 14, then *x* = _____

20) If $m\angle TPA = 63°$, then $m\angle RAP$ = _____, $m\angle TEZ$ = _____ and $m\angle PTR$ = _____

21) If $m\angle RZE = 8x - 6$ and $m\angle RAP = 6x + 2$ then *x* = _____

- **A kite is a quadrilateral with two pairs of adjacent congruent sides.**

LMNP is a kite. Find the unknown measures.

22) If $MN = 4x + 5$ and $NP = 6x - 1$, then $MN =$ _____

23) If $m\angle LMP = 58°$ and $m\angle LPM = 7x + 2$, then x = _____

24) If $m\angle MQN = 8x - 14$, then x = _____