

1.) Formula to find the sum of interior angles:  $(n-2)180$   $n = \#$  of sides

2.) Sum of all exterior angles is  $360^\circ$

3.) Regular polygon means: all sides and angles are congruent

4) Quadrilaterals:

1.) 4 sides and 4 angles

2.) All interior angles add up to  $360^\circ$

Definition of a parallelogram: both pairs of opposite sides are parallel

Properties of a parallelogram

1.) 2 pairs of opposite sides are congruent

2.) 2 pairs of opposite angles are congruent

3.) diagonals bisect each other

4.) consecutive angles are supplementary

Definition of a kite: 2 pairs of consecutive sides are congruent

Properties of a kite:

1.) diagonals are perpendicular

2.) opp sides are not congruent

3.) one pair of opposite angles are congruent

Definition of a rhombus: four congruent sides

Properties of a rhombus:

1.) diagonals are perpendicular

2.) diagonals bisect the angles

Rectangles:

1.) all angles are  $90^\circ$

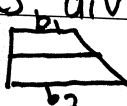
2.) diagonals are congruent

Trapezoids:

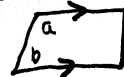
1.) bases are parallel (exactly one set)

2.) Mid-segment = sum of the 2 bases, divided by 2

$$\text{Mid} = \frac{b_1 + b_2}{2}$$



\* consecutive int  $\angle$ 's  
equal  $180^\circ$   
(one from each  
base)

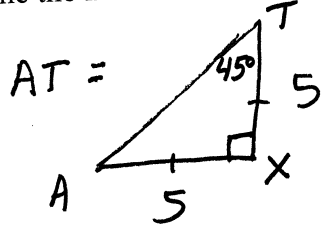
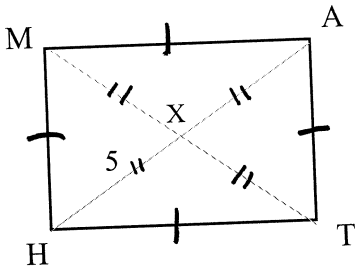


$$a + b = 180^\circ$$

Isosceles Trapezoids:

- 1) diagonals are congruent
- 2) legs are congruent
- 3) base angles are congruent

Given MATH is a square, determine the indicated measures of MT, AT, and  $\angle HTX$



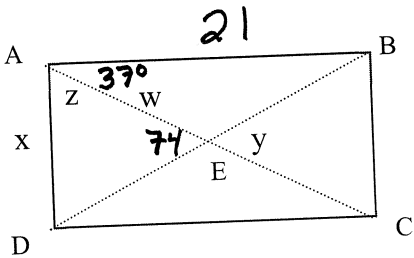
$$MT = 2(5) = 10$$

$$MT = \underline{10}$$

$$AT = \underline{5\sqrt{2}}$$

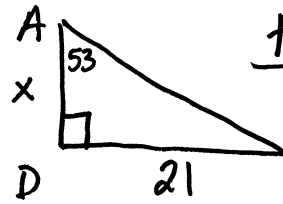
$$m\angle HTX = \underline{45^\circ}$$

Given ABCD is a rectangle,  $AB = 21$  and  $m\angle BAE = 37^\circ$  determine the indicated measures of sides w, x, and angles y, and z.



$$90 - 37 = z$$

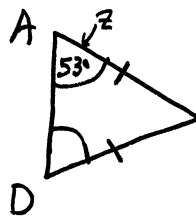
$$\boxed{53^\circ = z}$$



$$\frac{\tan 53 = \frac{21}{x}}{1 \quad x}$$

$$x \tan 53 = 21$$

$$\boxed{x = 15.8}$$



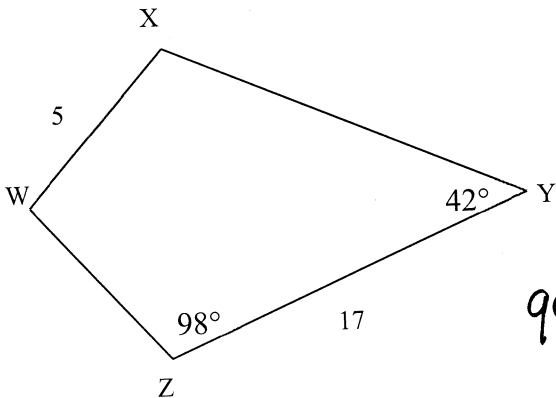
$$180 = 53 + 53 + \angle E$$

$$-106 \quad -106$$

$$\underline{74^\circ = m\angle E}$$

$$\boxed{y = 74^\circ}$$

Given ~~ABCD~~ <sup>WXYZ</sup> is a kite, determine the indicated measures.



$$98 + 98 + 42 + \angle W = 360$$

$$238 + \angle W = 360$$

$$\underline{-238 \quad -238}$$

$$\angle W = \underline{122^\circ}$$

$$46.) \frac{WZ}{AB} = \underline{5}$$

$$47.) \frac{XY}{AC} = \underline{17}$$

$$48.) m\angle W = \underline{122^\circ}$$

$$49.) m\angle X = \underline{98^\circ}$$