Ch 6 RWS #2 Name: Key

Fill in the blank, a sketch may help.

In ▱ABCD, if AB = 12 and BC = 7, then CD = 12.

2. In ▱QRST, if $m\angle Q = 130°$, then $m\angle S =$ 130 and $m\angle T =$ 50.

3. In ▱ABCD, if AC intersects BD at Q, AQ = 6 and DQ = 10, then DB = 20.

4. A rhombus with four right angles is a square.

5. In rhombus MNOP, if MO and NP intersect at Q, then $m\angle MQN =$ 90°.

6. In what type of parallelogram are the diagonals both perpendicular and congruent? square

State whether each statement is *always, sometimes* or *never* true.

7. A parallelogram with equal diagonals is a square. S (rectangle)

8. A trapezoid is a parallelogram N

9. The diagonals of a parallelogram are perpendicular. S (rhombus

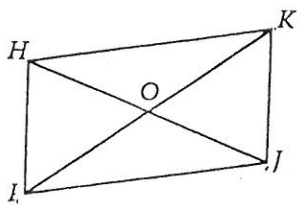
10. If the diagonals of a quadrilateral are congruent, then the quadrilateral is a rectangle. S (isos. trapezoid)

11. The legs of a trapezoid are congruent. S (isosceles)

12. A rhombus is a rectangle. S (square)

Use your information on parallelograms to solve each problem.

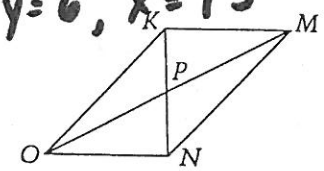
Set A Given ▱*HIJK*



1. If $HI = 18$, find KJ. 18
2. If $HO = 10$, find HJ. 20
3. If $m\angle HIJ = 135$, find $m\angle HKJ$. 135
4. If the distance from K to $\overleftrightarrow{HI}$ is 15, what is the distance from I to $\overleftrightarrow{KJ}$? 15

Set B Find x and y so that *KMNO* is a parallelogram.

1. $KM = x + y$; $MN = 2y + 6$; $ON = 2x - 7$; $KO = 3y$ y=6, x=13
2. $KM = x + y$; $ON = 3x - 4y$; $m\angle MKN = x + 5$; $m\angle KNO = 2x - 10$ x=15; y=6
3. $m\angle KOM = 6y + 1$; $m\angle KMO = 3x + 2$; $m\angle MON = 2x + 8$; $m\angle OMN = 4y + 7$ x=6; y=3

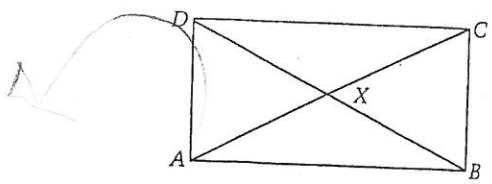


BJ = x

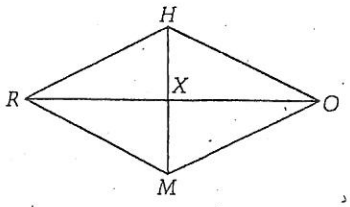
Set C In rectangle *ABCD*, with $\overline{AC}$ and $\overline{BD}$ intersecting at *X*,

1. if $BD = 7.5$ yards, then $XC =$?. 3.75
2. if $AX = 4y + 12$ and $CX = 2y + 48$, find y and AC. 168
3. if $AC = 9p - 35$ and $BD = 4p + 70$, then $p =$?. p=21

9p-35=4p+70



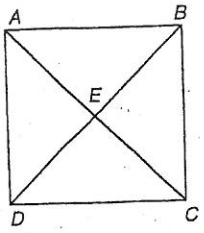
Set D In rhombus $RHOM$ with $\overline{HM}$ and $\overline{OR}$ intersecting at X,



1. if $m\angle RHX = 62$, then $m\angle HOX =$ 28° and $m\angle MRX =$ 28°
2. find the perimeter if $HO = 7p - 15$ and $MO = 3p + 5$. p=5 ; 80 = Perim.
3. find $m\angle RMO$ and $m\angle MOH$ if $m\angle RMX = 6x + 5$ and $m\angle MOX = 4x + 10$.

<RMO = 100° <MOH = 80°

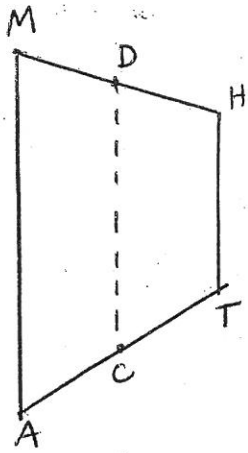
Set E *Use square ABCD and the given information to find each value.*



1. If $m\angle AEB = 3x$, find x. x=30
2. If $m\angle BAC = 9x$, find x. x=5
3. If $AB = 2x + 4$ and $CD = 3x - 5$, find BC.

BC=122

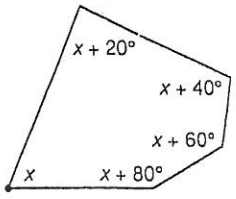
Set F MATH is an isosceles trapezoid with bases MA and TH. Use the given info to solve each problemo.



1. If MA = 34 and HT = 11, find CD 22.5
2. If HT = 17.6 and CD = 40, find MA 62.4
3. If CD = x + 24 and MA + HT = $4x + 3$, find x. 22.5
4. If m<TAM = 63°, find m<HTA 117°

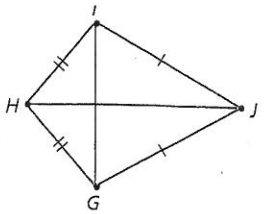
Set G

1. Find the sum of the interior angles for a regular heptagon. 900
2. Find an interior angle for a regular 13-gon 152.31
3. Find an exterior angle for a regular 24-gon 15
4. What type of regular polygon has an interior angle measure of 135°? octagon
5. Solve for x. ⟶ way over there ⟶ X=68°



Set H

In Exercises 1–4 use the diagram of the kite *GHIJ*, at the right, to decide whether the statement is true or false.



1. $\overline{GI}$ and $\overline{HJ}$ are perpendicular. T
2. $\overline{GI}$ and $\overline{HJ}$ are congruent. F
3. $\angle G$ and $\angle H$ are congruent. F
4. $\angle G$ and $\angle I$ are congruent. T