

Name _____

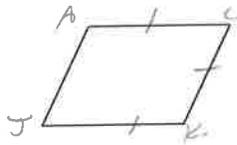
Date _____

1) ACKJ is a rhombus.

AC=6y+4, CK=5y+8, and KJ=3y+16. Find y.

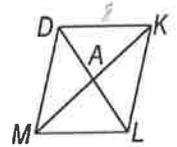
$$6y + 4 = 5y + 8$$

$$y = 4$$



2) DKLM is a rhombus. If DK=8, find KL.

8

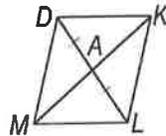


3) DKLM is a rhombus. If DA=4x, AL=5x-3, find DL.

$$4x = 5x - 3$$

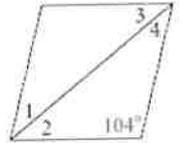
$$3 = x$$

$$DL = 24$$



4) In the rhombus, find indicated angle measures.

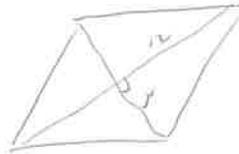
$$All = 38$$



5) The diagonals of a rhombus are 10 and 24.

Find the length of the side of the rhombus.

13



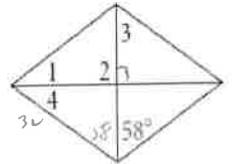
6) In the rhombus, find indicated angle measures.

$$\sphericalangle 1 = 32$$

$$\sphericalangle 2 = 90$$

$$\sphericalangle 3 = 58$$

$$\sphericalangle 4 = 32$$



WXYZ is a rhombus. WX=4 and $m\angle WXY = 60$.

1) XY = 4

2) $m\angle ZWX =$ 120

3) $m\angle 1 =$ 60

4) $m\angle 2 =$ 60

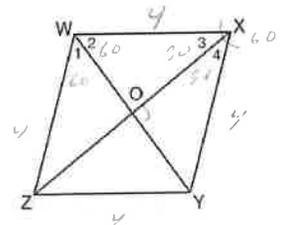
5) $m\angle 3 =$ 30

6) $m\angle 4 =$ 30

7) WO = 2

8) OX = 3.5

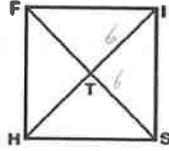
9) WY = 4



All of the following figures are squares.

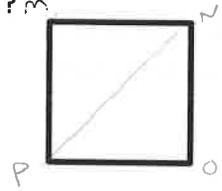
1) FISH is a square with $IT=6$. Find IH and IS .

$IH = 12$
 $IS = 8.5$



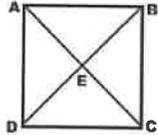
2) If MNOP is a square, what is $m\angle MNP$?

45°



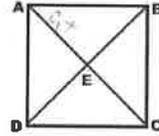
3) If $m\angle AEB = 3x$, find x .

30



4) If $m\angle BAC = 9x$, find x .

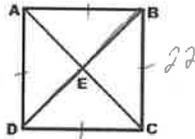
5



5) If $AB=2x+4$ and $CD=3x-5$, find BC and BD .

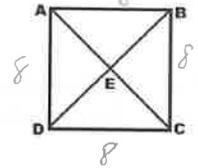
$2x+4 = 3x-5$
 $9 = x$

$BC = 22$
 $BD = 31.1$



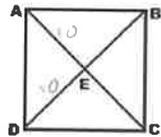
6) The perimeter of the square is 32 cm. Find the length of the diagonal DB .

$DB = 11.3$



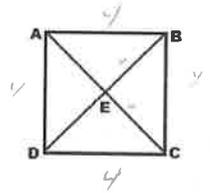
7) $DE=10$. Find AD .

14.1



8) The area of the square is 16. Find EC .

$x^2 + x^2 = 4^2$
 $2x^2 = 16$
 $x^2 = 8$
 $x = 2.8$



EFGH is a square. $EF=10$.

1) $FG = 10$

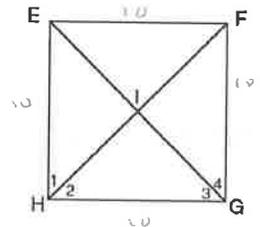
2) $m\angle EFG = 90$

3) $EG = 14.1$

4) $EI = 7.05$

5) $IF = 7.05$

6) $m\angle EIF = 90$



7) $m\angle 1 = 45$

8) $m\angle 3 = 45$

9) $HF = 14.1$

Decide whether the parallelogram is a rhombus, rectangle, or a square. plain.

- 1) Rectangle
- 2) Square
- 3) Rectangle
- 4) Rhombus
- 5) Rhombus
- 6) Not enough info
- 7) Rhombus
- 8) Square
- 9) Parallelogram
- 10) $\overline{MO} \cong \overline{PN}$
 Rectangle
- 11) Rhombus
- 12) $\overline{AC} \cong \overline{BD}$
 Square

1) Given the rectangle, find x and y .

$$x^2 = 6x + 16$$

$$x^2 - 6x - 16 = 0$$

$$(x-8)(x+2) = 0$$

$$x = 8, -2$$

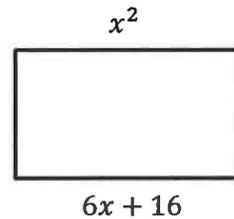
$$y^2 - 11 = 3y - 1$$

$$y^2 - 3y - 10 = 0$$

$$(y-5)(y+2) = 0$$

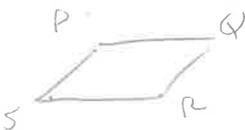
$$y = 5, -2$$

$y = -2$ is invalid



$$y^2 - 11$$

2) PQRS is a parallelogram. $\angle P = (8y + 2)$, $\angle R = (y^2 - 18)$, $\angle S = 2x^2$. Find all possible values for x and y .



$$\angle P = \angle R$$

$$8y + 2 = y^2 - 18$$

$$y^2 - 8y - 20 = 0$$

$$(y-10)(y+2) = 0$$

$$y = 10, -2 \quad -2 \text{ is invalid}$$

$$\angle P + \angle S = 180$$

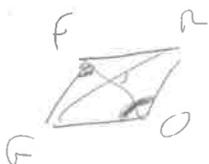
$$82 + 2x^2 = 180$$

$$2x^2 = 98$$

$$x^2 = 49$$

$$x = 7, -7$$

3) FROG is a rhombus whose diagonals intersect at S. $\angle GFO = (5x + 9)$, $\angle GOR = (x^2 - 6)$. Find x .



$$5x + 9 + 5x + 9 = x^2 - 6$$

$$10x + 18 = x^2 - 6$$

$$x^2 - 10x - 24 = 0$$

$$(x-12)(x+2) = 0$$

$$x = 12, -2$$

$$x = 12$$

-2 is invalid

