

9.13

Geometry

Worksheet: Trapezoids & Kites

Name Key
Date _____ Period _____

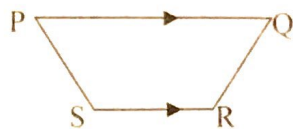
PQRS is an isosceles trapezoid

1) Name the bases of trapezoid PQRS. \overline{PQ} & \overline{SR}

2) Name the legs of trapezoid PQRS. \overline{PS} & \overline{QR}

3) Name two pairs of congruent angles. $\angle P \cong \angle Q$, $\angle S \cong \angle R$

4) Name a pair of congruent segments. $\overline{PS} \cong \overline{QR}$



Isosceles trapezoid ABCD. \overline{XY} is a midsegment

5) If $AX = 4$, then $CD =$ 8

6) If $m\angle ABC = 110^\circ$, then $m\angle BAD =$ 70°

7) If $m\angle BAD = 65^\circ$, then $m\angle CDA =$ 65°

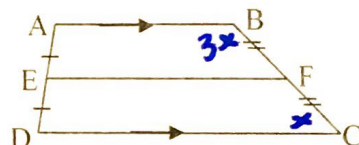
8) If $m\angle DCB = 105^\circ$, then $m\angle DAB =$ 75°



Trapezoid ABCD. Show all work. \overline{EF} is a midsegment

9) $m\angle B$ is three times $m\angle C$. Find $m\angle B$ and $m\angle C$.

(Hint: Let $m\angle C = x^\circ$)



$$3x + x = 180$$

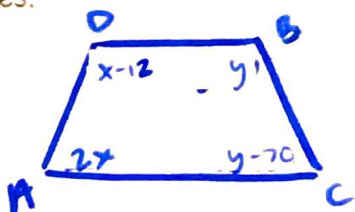
$$\frac{4x}{4} = \frac{180}{4}$$

$$x = 45$$

$$m\angle B = 135^\circ$$

$$m\angle C = 45^\circ$$

10) If $m\angle A = (2x)^\circ$, $m\angle D = (x - 12)^\circ$, $m\angle B = y^\circ$ and $m\angle C = (y - 70)^\circ$, find measures of all four angles.



$$m\angle A = 128^\circ$$

$$m\angle D = 52^\circ$$

$$m\angle B = 125^\circ$$

$$m\angle C = 55^\circ$$

$$x - 12 + 2x = 180$$

$$\begin{array}{r} 3x - 12 = 180 \\ + 12 \quad + 12 \\ \hline 3x = 192 \end{array}$$

$$3x = 192$$

$$x = 64$$

$$y + y - 70 = 180$$

$$\begin{array}{r} 2y - 70 = 180 \\ + 70 \quad + 70 \\ \hline 2y = 250 \end{array}$$

$$2y = 250$$

$$y = 125$$

Kite GHIJ. (True or False)

11) $m\angle GKJ = 90^\circ$ T

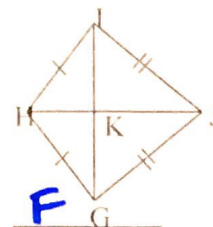
12) $\overline{HJ} \cong \overline{IG}$ F

13) $\angle HIJ \cong \angle HGJ$ T

14) \overline{HJ} and \overline{IG} bisect each other. F

15) $\angle IHG \cong \angle IJG$ F

16) \overline{HJ} bisects \overline{IG} . T



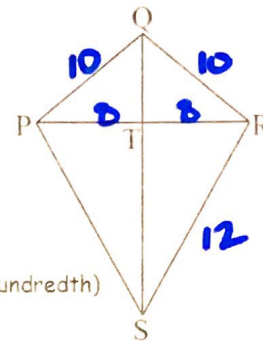
Refer to kite PQRS with $PQ = QR = 10$, $PR = 16$, $RS = 12$.

17) $TR =$ 8

18) $QT =$ 6

19) $TS =$ $4\sqrt{5}$ (Simplest Radical form)

20) $QS =$ 14.94 (rounded to nearest hundredth)



21) If $m\angle QRT = 40^\circ$, then $m\angle PQR =$ 100° .

22) If $m\angle PSR = 30^\circ$, then $m\angle TRS =$ 75° .

Refer to kite WXYZ.

23) $m\angle VYZ =$ 65°

24) $m\angle XWZ =$ 80°

25) $m\angle VXY =$ 75°

26) $m\angle WXY =$ 150°

27) $m\angle WZY =$ 50°

