Name_____ Period_____ Date_____

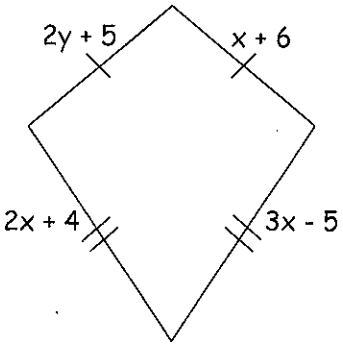
Trapezoids & Kites

☆ **Remember: ALL work must be shown to receive credit. Don't forget to check!**

Find the indicated values.

x= _____ **1)**

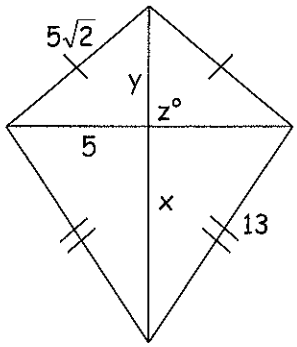
y = _____



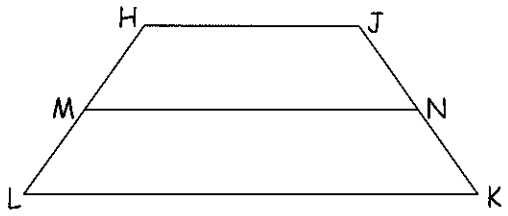
x = _____ **2)**

y = _____

z = _____



$\overline{MN}$ is the median of trapezoid HJKL. Find each indicated value.



_____ **3)** Find MN if HJ = 32 and LK = 60

_____ **4)** Find LK if HJ = 18 and MN = 28

_____ **5)** Find MN if HJ + LK = 42

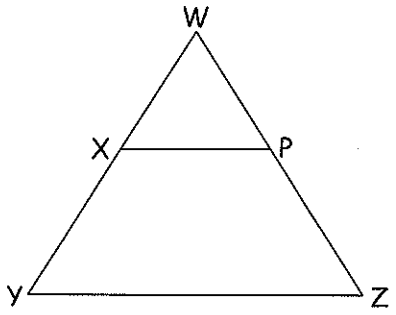
_____ **6)** Find m∠LMN if m∠LHJ = 116°.

_____ **7)** Find m∠HJK if HJKL is isosceles and m∠HLK = 62°.

_____ **8)** Find HJ if MN = 5x + 6, HJ = 3x + 6, and LK = 8x.

_____**9)** ABCD is a quadrilateral with vertices A(-9, 1), B(2, 3), C(12, -2), and D(-10, -6). Is ABCD an isosceles trapezoid? Show AND LABEL all work. (Remember: You'll need to set up and solve 6 separate formulas.)

10) Given: ZYXP is an isosceles trapezoid with bases $\overline{XP}$ and $\overline{YZ}$.
Prove: ΔYWZ is isosceles.

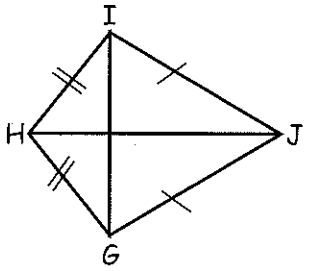


STATEMENTS	REASONS
1) ZYXP is an isosceles trapezoid with bases $\overline{XP}$ and $\overline{YZ}$.	1) Given
2) $\angle Y$ and $\angle Z$ are Base Angles	2)
3) $\angle Y \cong \angle Z$	3)
4)	4)
5) ΔYWZ is isosceles.	5)

Name_____ Date_____ Period_____

Kites & Trapezoids

Use kite GHIJ to determine whether each statement is true or false.



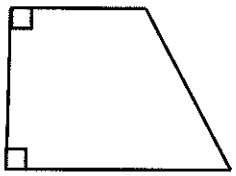
_____ 1) $\overline{GI} \perp \overline{HJ}$

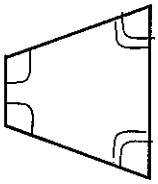
_____ 2) $\overline{GI} \cong \overline{HJ}$

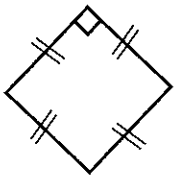
_____ 3) $\angle HGJ \cong \angle IHG$

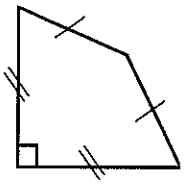
_____ 4) $\angle HGJ \cong \angle HIJ$

Identify the quadrilateral as a square, kite, trapezoid, or isosceles trapezoid. Use each word exactly once.









5) _____ 6) _____ 7) _____ 8) _____

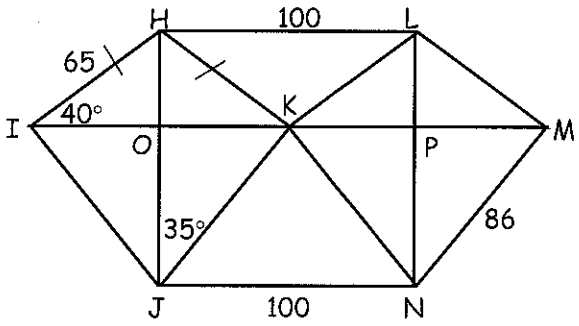
In the diagram, HIJK and LMNK are kites. HIJK ≅ LMNK, m∠HIO = 40°, m∠KJO = 35°, MN = 86, HL = JN = 100, HI = HK = 65

_____ 9) What is the m∠HKL?

_____ 10) Is ΔHLK ≅ ΔJKN? Explain your reasoning.

_____ 11) What is the perimeter of IHLMNJ?

_____ 12) What type of polygon is IHLMNJ?



Match the type of quadrilateral to the statements which are true for quadrilateral ABCD.

_____13) ABCD is a kite which is not a rhombus.

_____14) ABCD is a parallelogram which is not a rhombus.

_____15) ABCD is a rhombus.

_____16) ABCD is an isosceles trapezoid

A. $\overline{AB} \cong \overline{BC} \cong \overline{CD}$, $\overline{AB} \parallel \overline{CD}$

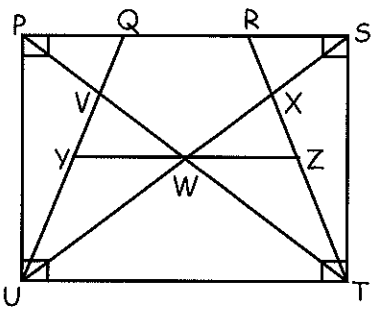
B. $\overline{AB} \cong \overline{CD}$, $\overline{AB} \nparallel \overline{CD}$, $\overline{BC} \parallel \overline{AD}$

C. $\overline{AB} \parallel \overline{CD}$, $\overline{AD} \parallel \overline{BC}$, $\overline{AB} \ncong \overline{BC}$

D. $\overline{AC} \perp \overline{BD}$, $\overline{AB} \cong \overline{BC}$, $\overline{BC} \ncong \overline{CD}$

PSTU is a rectangle. $\overline{PQ} \cong \overline{RS}$ and $\overline{YZ}$ is the median of isosceles trapezoid QRTU.

_____ 17) QR = 3x - 10, UT = 2x + 3, YZ = 9. Solve for x.



_____ 18) PQ = 2y, UT = 6y + 1, QR = 5. Solve for y.

_____ 19) PT = 3a - 2, UW = 14 - a. Solve for a.

_____ 20) UY = 3b + 4, ZT = 4b - 5. Solve for b.