Name Date Period

**Kites & Trapezoids**

G

H

I

J

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1) $\overbar{GI}$ ⊥ $\overbar{HJ}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2) $\overbar{GI}$ $≅$ $\overbar{HJ}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3) ∠HGJ $≅$ ∠IHG

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4) ∠HGJ $≅$ ∠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**

P

K

J

N

M

L

H

I

O

100

100

100

65

86

40°

35°

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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. A. $\overbar{AB}$ $≅$ $\overbar{BC}$ $≅$ $\overbar{CD}$, $\overbar{AB}$ || $\overbar{CD}$

\_\_\_\_\_\_\_\_14) ABCD is a parallelogram which is not a rhombus. B. $\overbar{AB}$ $≅$ $\overbar{CD}$, $\overbar{AB}$ $∦$ $\overbar{CD}$, $\overbar{BC}$ || $\overbar{AD}$

\_\_\_\_\_\_\_\_15) ABCD is a rhombus. C. $\overbar{AB}$ || $\overbar{CD}$, $\overbar{AD}$ || $\overbar{BC}$, $\overbar{AB}$ $≇$ $\overbar{BC}$

\_\_\_\_\_\_\_\_16) ABCD is an isosceles trapezoid D. $\overbar{AC}$ ⊥ $\overbar{BD}$, $\overbar{AB}$ $≅$ $\overbar{BC}$, $\overbar{BC}$ $≇$ $\overbar{CD}$

**PSTU is a rectangle.** $\overbar{PQ}$$≅$$\overbar{RS}$ **and** $\overbar{YZ}$ **is the median of isosceles trapezoid QRTU.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 17) QR = 3x – 10, UT = 2x + 3, YZ = 9. Solve for x.

P

Y

V

X

Z

W

U

T

S

R

Q

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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.

Also complete pgs. 360 - 361 #5, 9, 13, 17 - 22