Independent Practice: **RECTANGLES**

NAME: _____ DATE: _____ PERIOD: _____

For # 1 – 8, find the values indicated if a picture is not provided draw and label a diagram to represent each problem and then solve.

1. w = _____ If the length of a rectangle is 8 cm, and the diagonal is 17 cm. Find the length of the width.

2. FG = _____ In rectangle EFGH, EF = $3\sqrt{2}$ and diagonal FH = $6\sqrt{3}$. Find the length of FG.

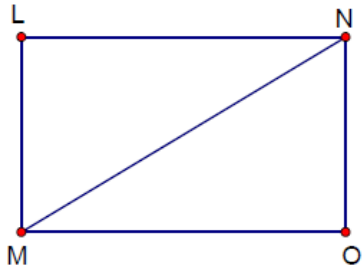
3. x = _____ In rectangle ABCD, m∠ A $= 7x + 6$. Find x.

4. x = _____ If ABCD is a rectangle, AB = 4(x+3), BC = 6 – (2 + y), DC = 12(x – 5) and AD = 3y. Find the value of x and y.

   y = _____

5. QS = _____ In □ QRST, diagonals $\overline{QS}$ and $\overline{RT}$ intersect at E. If QE = 3x -10 and QS = 5x – 8, find the length of $\overline{QS}$.

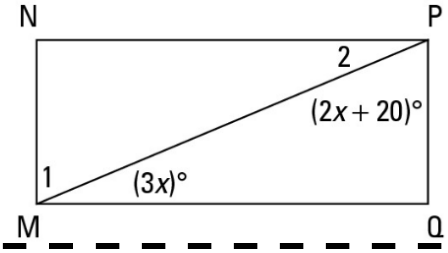
6. m∠LMN = _____° In rectangle MLNO, diagonal $\overline{MN}$ is drawn. If m∠LNM = (4x + 19)° and m∠NMO = (7x – 2)°, find the m∠LMN.



7. $\angle 1$ = _____°

$\angle 2$ = _____°

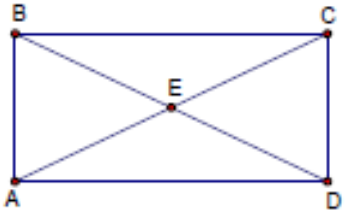
Given the rectangle as shown, find the measures of $\angle 1$ and $\angle 2$.



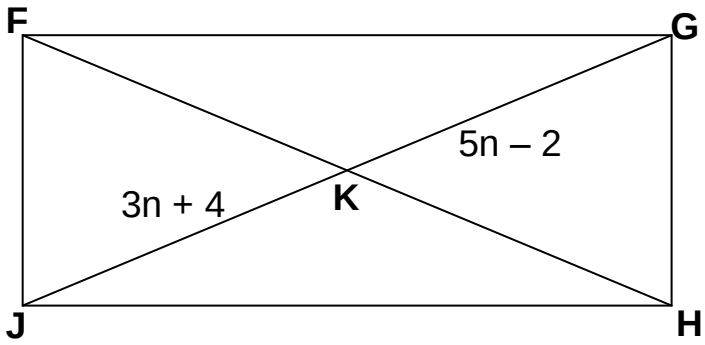
8. x = _____

y = _____

In the diagram of rectangle ABCD, diagonals AC and BD intersect at E. If AE = 3x + y, BE = 4x – 2y and CE = 20, find x and y. (HINT: Use a system of equations.)



For # 9 – 11, if quadrilateral FGHJ is a rectangle, solve for each of the indicated values.



9. If JK = 3n + 4 and KG = 5n -2, what is the value of **n**?

n = _____

10. If FH = 5m + 1, what is the value of **m**?

m = _____

11. If m$\angle$H is 7q + 6, what is the value of **q**?

q = _____