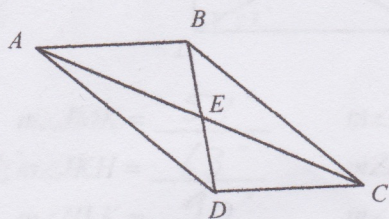


Answer key for Learning Stations Review

key #5

PARA1.

Given that $AC = 8x - 14$ and $EC = 2x + 11$, solve for AC and EC .



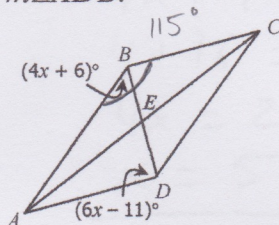
$$\begin{aligned} AC &= \underline{58} \\ EC &= \underline{29} \end{aligned}$$

$$\begin{aligned} 8x - 14 &= 2(2x + 11) \\ 8x - 14 &= 4x + 22 \\ 4x &= 22 + 14 \\ 4x &= 36 \\ x &= 9 \end{aligned}$$

$$\begin{aligned} EC &= 2(9) + 11 & AC &= 8(9) - 14 \\ &= 18 + 11 & &= 72 - 14 \\ &= 29 & &= 58 \end{aligned}$$

PARA2.

If $m\angle ABC = 115^\circ$, find $m\angle ADB$.



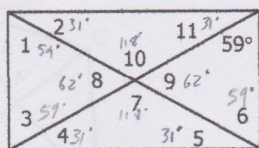
$$\begin{aligned} 6x - 11 + 4x + 6 &= 115 \\ 10x - 5 &= 115 \\ 10x &= 120 \\ x &= 12 \end{aligned}$$

$$m\angle ADB = \underline{61^\circ}$$

$$\begin{aligned} m\angle ADB &= 6(12) - 11 \\ &= 61^\circ \end{aligned}$$

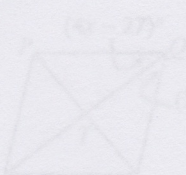
key #3

REC1.



$$\begin{aligned} 8. m\angle 1 &= \underline{59^\circ} & 4. m\angle 5 &= \underline{31^\circ} & 2. m\angle 9 &= \underline{62^\circ} & 180^\circ - 59^\circ - 59^\circ \\ 8. m\angle 2 &= \underline{31^\circ} & 1. m\angle 6 &= \underline{59^\circ} & 3. m\angle 10 &= \underline{118^\circ} & 180^\circ - 62^\circ \\ 8. m\angle 3 &= \underline{59^\circ} & 3. m\angle 7 &= \underline{118^\circ} & 7. m\angle 11 &= \underline{31^\circ} \\ 5. m\angle 4 &= \underline{31^\circ} & 6. m\angle 8 &= \underline{62^\circ} & & & \text{alt int } \angle\text{'s} \end{aligned}$$

isosceles Δ vertical \angle 's

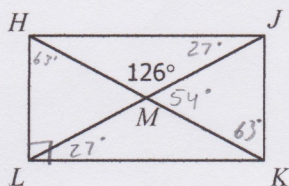


$$\begin{aligned} m\angle SPQ &= 180^\circ - 82^\circ \\ &= 98^\circ \end{aligned}$$

$$\begin{aligned} m\angle SPQ &= 98^\circ \\ m\angle SQP &= 2(17) + 7 \\ &= 41^\circ \\ m\angle PQR &= 41^\circ \cdot 2 \\ &= 82^\circ \end{aligned}$$

Key #5

REC2.



$$180^\circ - 126^\circ = 54^\circ \quad m\angle JMK = 54^\circ \quad m\angle HJL = 27^\circ \quad 180^\circ - 126^\circ = \frac{54^\circ}{2} = 27^\circ$$

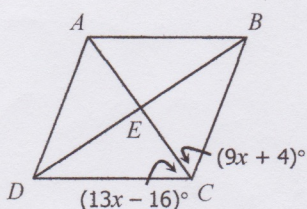
$$180^\circ - 54^\circ = \frac{126^\circ}{2} = 63^\circ \quad m\angle JKH = 63^\circ \quad m\angle LHK = 63^\circ$$

$$m\angle HLK = 90^\circ \quad m\angle JLK = 27^\circ$$

Key #6

RHOM1.

The figure below is a rhombus with diagonals. If $m\angle ACB = (9x + 4)^\circ$ and the $m\angle ACD = (13x - 16)^\circ$, what is the value of x ?



$$9x + 4 = 13x - 16$$

$$4 + 16 = 13x - 9x$$

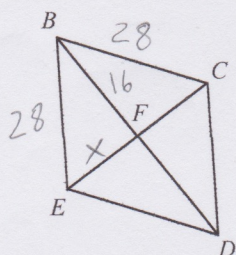
$$4x = 20$$

$$x = 5$$

Key #2

RHOM2.

BC = 28 and BD = 32



$$CD = 28$$

$$FD = 16 \quad \frac{32}{2} = 16$$

$$EF = 23$$

$$EC = 46 \quad 23 \cdot 2 = 46$$

$$x^2 + 16^2 = 28^2$$

$$x^2 + 256 = 784$$

$$x^2 = 528$$

$$x = 23$$

$$\text{OR: } m\angle PQT = 4(17) - 2 = 41^\circ$$

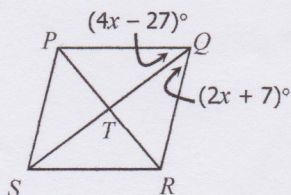
$$m\angle PQR = 41^\circ \cdot 2 = 82^\circ$$

$$m\angle SPQ = 180^\circ - 82^\circ = 98^\circ$$

Quiz 7.2

RHOM3.

If PQRS is a rhombus, find $m\angle SPQ$.



$$m\angle SPQ = 180^\circ - 82^\circ = 98^\circ$$

$$m\angle SPQ = 98^\circ$$

$$4x - 27 = 2x + 7$$

$$4x - 2x = 7 + 27$$

$$2x = 34$$

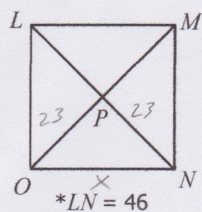
$$x = 17$$

$$m\angle SQR = 2(17) + 7 = 41^\circ$$

$$m\angle PQR = 41^\circ \cdot 2 = 82^\circ$$

key
#10

SQUA1.



$$\begin{aligned} OM &= \underline{46} \\ PN &= \underline{23} \\ ON &= \underline{32.5} \\ MN &= \underline{32.5} \end{aligned}$$

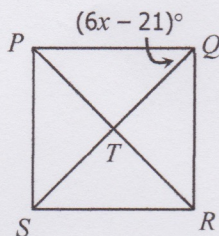
$$\frac{46}{2} = 23$$

$$\begin{aligned} X &= ON \\ 23^2 + 23^2 &= X^2 \\ 1058 &= X^2 \\ X &= 32.5 \end{aligned}$$

key
#12

SQUA2.

Solve for x.



$$6x - 21 = 45$$

$$6x = 66$$

$$X = 11$$