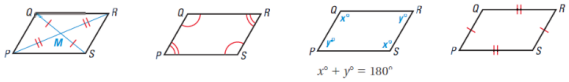
Geometry

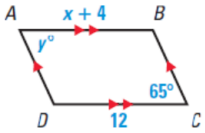
9.1 Properties of Parallelograms

A quadrilateral is a parallelogram if:

1. its opposite sides are congruent
2. its opposite angles are congruent
3. its consecutive angles are supplementary
4. its diagonals bisect each other



Find the values of x and y

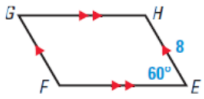


$x+4=12$

$x=8$

$y=65°$

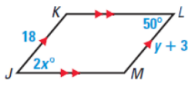
Find FG and $m\angle G$.



$FG=8$

$m\angle G=60°$

Find the values of x and y.



$2x=50$

$x=25$

$y+3=18$

$y=15$

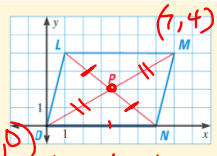
DESK LAMP As shown, part of the extending arm of a desk lamp is a parallelogram. The angles of the parallelogram change as the lamp is raised and lowered. Find $m\angle BCD$ when $m\angle ADC = 110°$.

180
−110
m∠C = 70°

The diagonals of $\square LMNO$ intersect at point P. What are the coordinates of P?

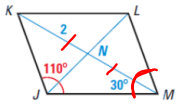
Ⓐ $\left(\frac{7}{2}, 2\right)$ Ⓑ $\left(2, \frac{7}{2}\right)$

Ⓒ $\left(\frac{5}{2}, 2\right)$ Ⓓ $\left(2, \frac{5}{2}\right)$



(7,4)
(0,0)
midpt.
$\left(\frac{x+x}{2}, \frac{y+y}{2}\right)$
$\frac{0+7}{2}$ $\frac{0+4}{2}$
$\left(\frac{7}{2}, 2\right)$

Find the indicated measure in $\square JKLM$.



a) NM = 2

b) KM = 4

c) m∠JML = 70°

d) m∠KML = 110°

180
−110

70 − 30

Homework

Worksheet