NAME __Key__   DATE _____   PERIOD _____

6-2 Skills Practice

Parallelograms

**Complete each statement about □DEFG. Justify your answer.**

1. $\overline{DG} \parallel$ __?__ EF, opp. sides of a parallelogram are ∥

2. $\overline{DE} \cong$ __?__ GF, opp. sides of a para are ≅

3. $\overline{GH} \cong$ __?__ EH, diagonals of a parallelogram bisect each other.

4. $\angle DEF \cong$ __?__ ∠FGD, opposite ∠s of a para are ≅

5. $\angle EFG$ is supplementary to __?__. ∠DEF or ∠FGD, con. int ∠s are suppl.

6. $\triangle DGE \cong$ __?__ △FEG diagonals ÷ into 2 ≅ △s

Have students skip for regular Geo.
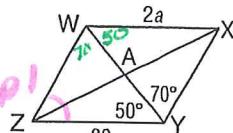
ALGEBRA Use □WXYZ to find each measure or value.

7. $m\angle XYZ =$ __50+70 =120°__ angle addition

8. $m\angle WZY =$ __60°__ con. int ∠s suppl.

9. $m\angle WXY =$ __60__ opp. ∠s of a parallelogram
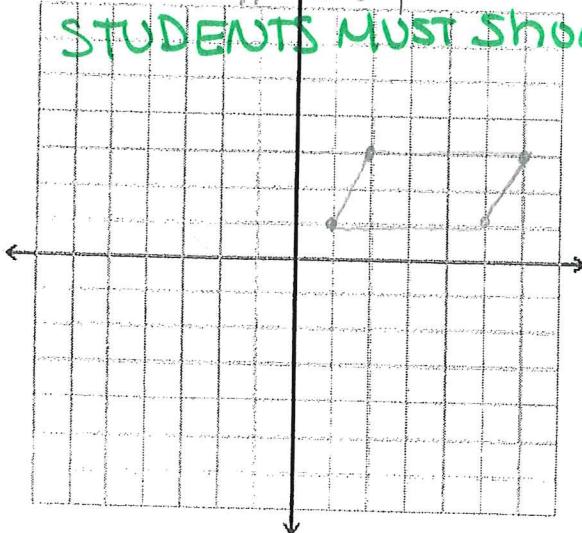
10. $a =$ __15__ 2a=30 op. sides of a para are ≅

COORDINATE GEOMETRY Find the coordinates of the intersection of the diagonals of parallelogram HJKL given each set of vertices.
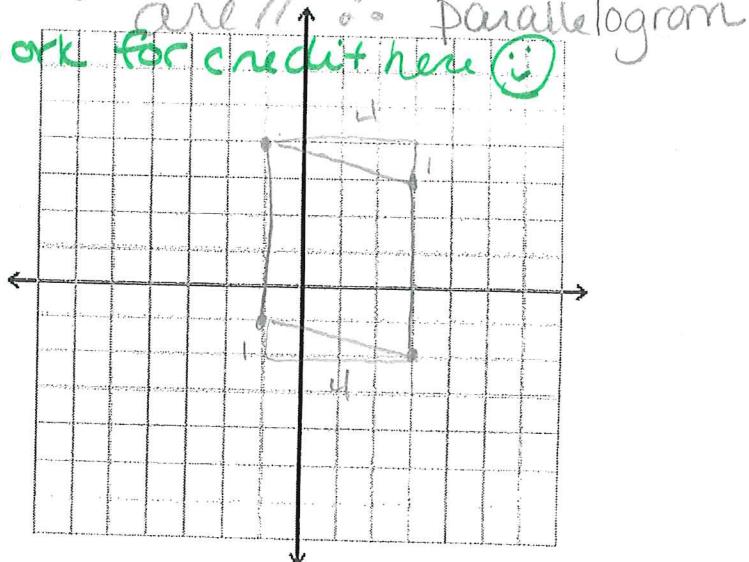
11. $H(1, 1), J(2, 3), K(6, 3), L(5, 1)$

Yes, opp. side slopes are ∥ ∴ P

STUDENTS MUST show work for credit here ☺
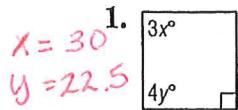
12. $H(-1, 4), J(3, 3), K(3, -2), L(-1, -1)$
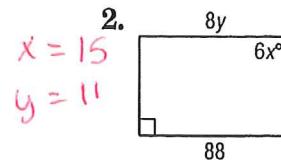
yes, op. side slopes are ∥ ∴ parallelogram

Exercises

Find x and y in each parallelogram.
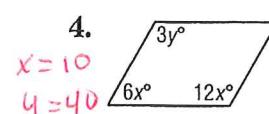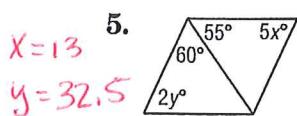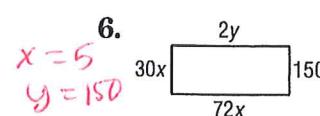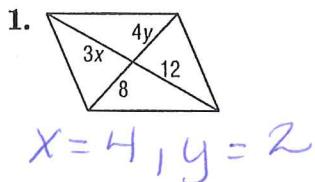
1. $x = 30$ $y = 22.5$
$3x°$ $4y°$
$3y = 90$ $x = 30$

2. $x = 15$ $y = 11$
$8y$ $6x°$ 88

3. $x = 2$ $y = 4$
$6x$ $3y$ 12

4. $x = 10$ $y = 40$
$3y°$ $6x°$ $12x°$

5. $x = 13$ $y = 32.5$
$55°$ $60°$ $5x°$ $2y°$

6. $x = 5$ $y = 150$
$2y$ $30x$ 150 $72x$

Find x and y in each parallelogram.

1. $3x$ $4y$ 12 8
$x = 4, y = 2$

2. 28 $2y$ $4x$
$x = 7, y = 14$

3. $60°$ $4y°$ $2x°$
$x = 15$ $y = 7.5$

4. $30°$ 10 y $3x$
$x = 3\frac{1}{3}, y = 10\sqrt{3}$

5. 12 $3x°$ $2y$
$x = 15, y = 6\sqrt{2}$
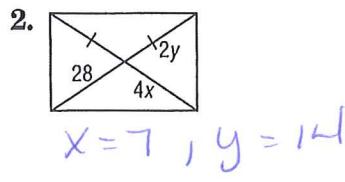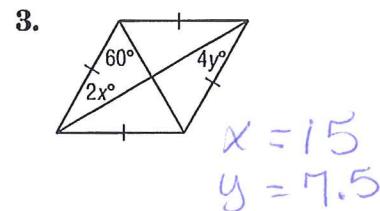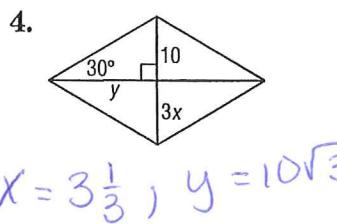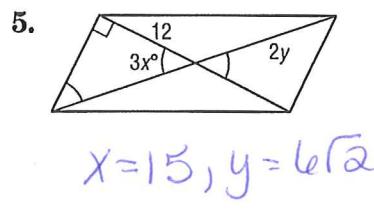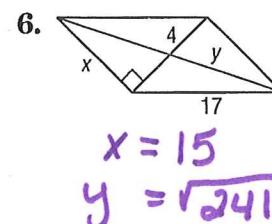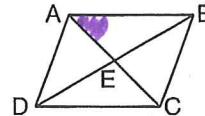
6. 4 x y 17
$x = 15$ $y = \sqrt{241}$

Complete each statement about ▱ABCD.
Justify your answer.

7. $\angle BAC \cong$ ∠DCA   alt int ∠s are ≅

8. $\overline{DE} \cong$ EB   diagonals of para bisect each other

9. $\triangle ADC \cong$ △CBA   diagonals of paras form ≅ △

10. $\overline{AD} \parallel$ DC   opp. sides of a parallelogram are //.