

# Chapter 6 REVIEW

Find the sum of the measures of the interior angles of a convex 70-gon.

$$(n-2)180$$

$$(70-2)180$$

$$(68)180 = 12,240^\circ$$

The measure of each interior angle of a regular polygon is 172.  
Find the number of sides in the polygon.

$$(n-2)180 = 172n$$

$$\begin{array}{r} 180n - 360 = 172n \\ -180n \qquad \qquad -180n \end{array}$$

$$\frac{-360}{-8} = \frac{-8n}{-8}$$

$$45 = n$$

The measure of each exterior angle of a regular polygon is 18.  
Find the number of sides in the polygon.

$$\text{sum of } \underline{\text{exterior angles}} = 360^\circ$$

$$\frac{360}{18} = 20$$



Determine whether this quadrilateral is a parallelogram. Justify your answer.

NO,

one pair must

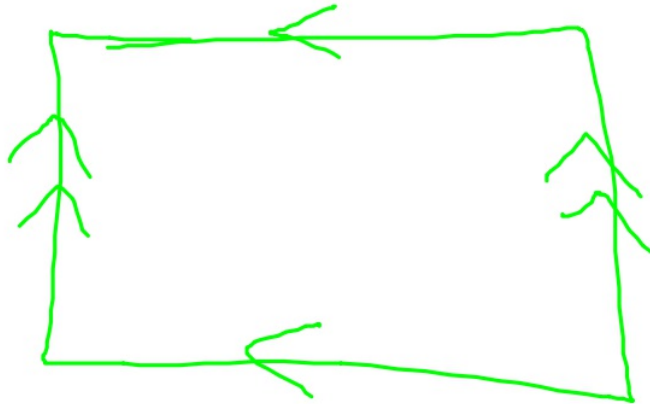
be congruent and parallel.



True or False?

A quadrilateral with two pairs of parallel sides is always a parallelogram.

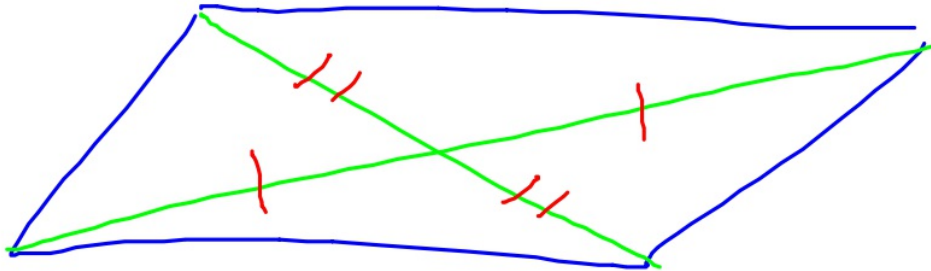
TRUE



True or False?

The diagonals of a parallelogram are always perpendicular.

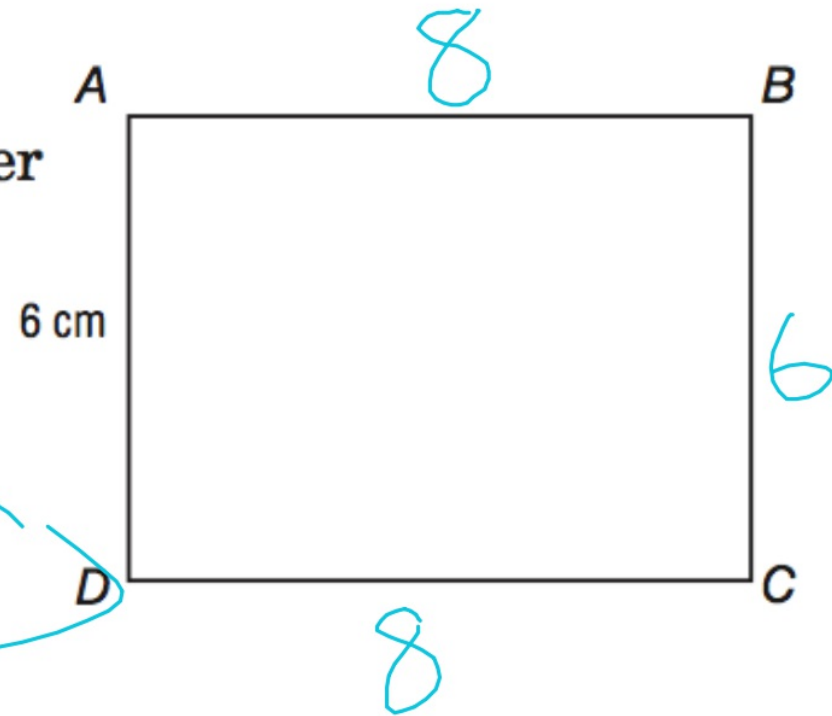
FALSE



Diagonals are  $\perp$  in a rhombus, square,  
kite



Refer to parallelogram  $ABCD$ .  
If  $AB = 8$  cm, what is the perimeter  
of the parallelogram?



$$8 + 8 + 6 + 6 = 28 \text{ cm}$$

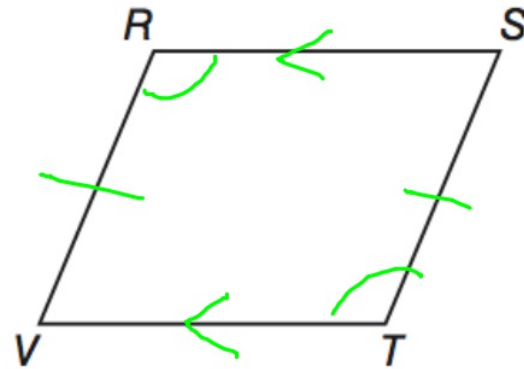
**MULTIPLE CHOICE**  $RSTV$  is a rhombus. Which of the following statements is NOT true?

**A**  $\overline{RV} \cong \overline{TS}$  ✓

**B**  $\overline{RV} \perp \overline{TS}$

**C**  $\overline{RS} \parallel \overline{TV}$  ✓

**D**  $\angle R \cong \angle T$  ✓



Parallelogram  
refer to ~~trapezoid~~ **MNPQ**.

$$x+9+2x+3+x+9+2x+3=360$$

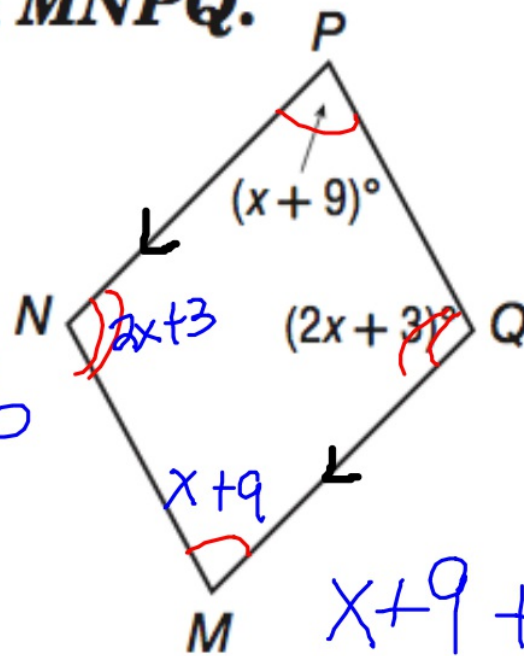
$$6x+24=360$$

Find  $m\angle M$ .  $x=56$

$$56+9=65^\circ$$

Find  $m\angle Q$ .

$$2(56)+3=115^\circ$$



$$x+9+2x+3=180$$

$$3x+12=180$$

$$x=56$$

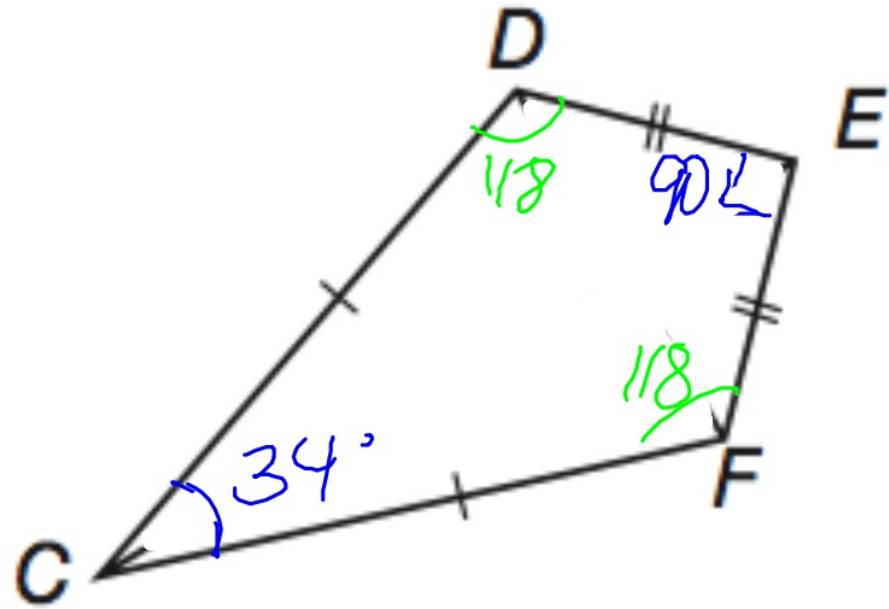
If  $m\angle DCF = 34$  and  $m\angle DEF = 90$ ,  
find  $m\angle CDE$ .

$$360^\circ$$

$$90 + 34 = 124$$

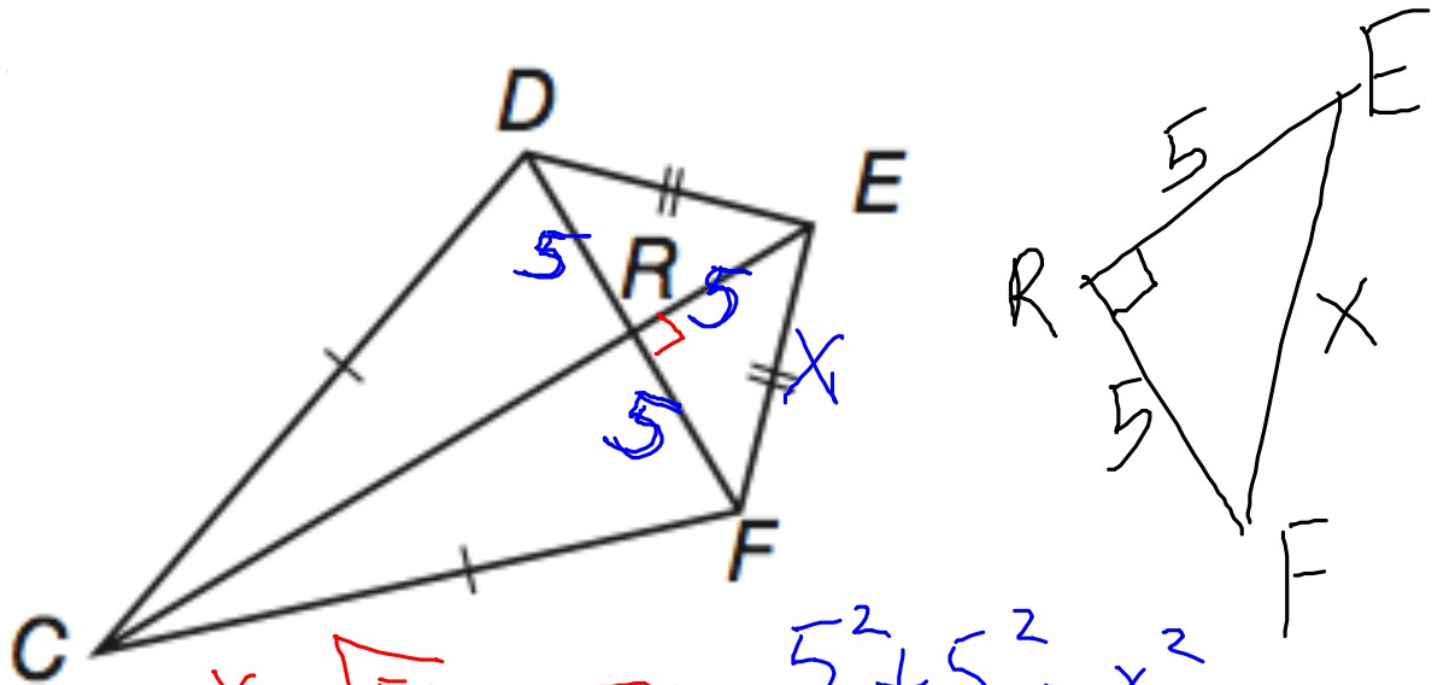
$$360 - 124 = 236$$

$$236 \div 2 = 118^\circ$$



If  $DR = 5$  and  $RE = 5$ , find  $FE$ .

$$a^2 + b^2 = c^2$$

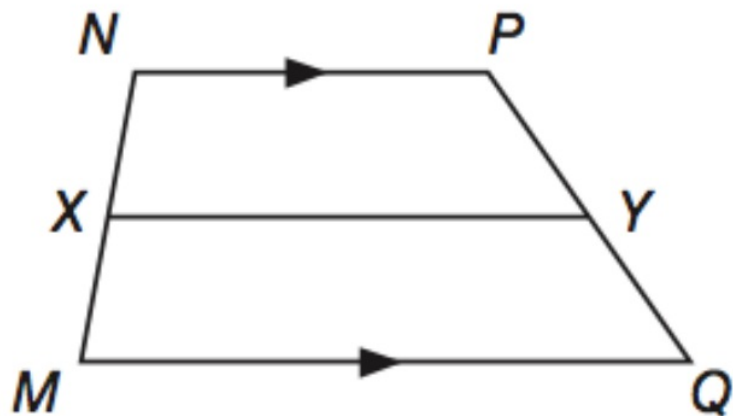


$$X = \sqrt{50} \approx 7.07$$
$$5^2 + 5^2 = X^2$$
$$25 + 25 = X^2$$
$$\sqrt{50} = \sqrt{X^2}$$

Given parallelogram  $ABCD$  with  $C(5, 4)$ , find the coordinates of  $A$  if the diagonals  $\overline{AC}$  and  $\overline{BD}$  intersect at  $(2, 7)$ .

$\square ABCD$  has vertices  $A(4, 0)$ ,  $B(0, 4)$ ,  $C(-4, 0)$ , and  $D(0, -4)$ . Determine whether  $ABCD$  is a *rectangle*, *rhombus*, or *square*. List all that apply.

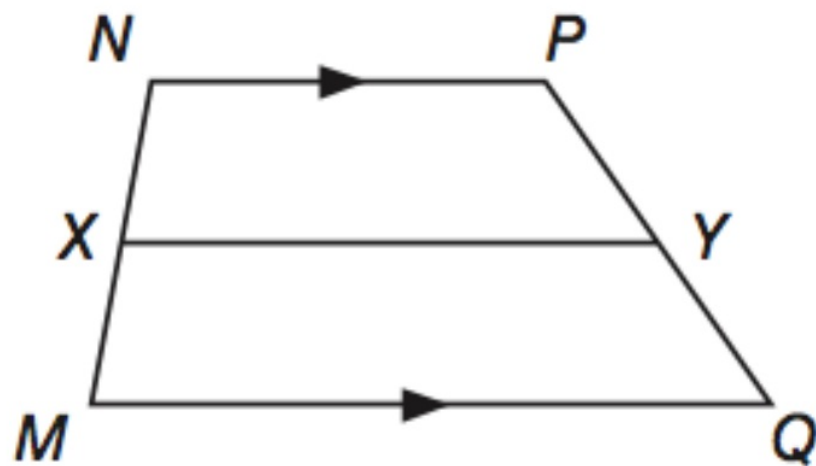
**$X$  and  $Y$  are midpoints of the sides.**



If  $MQ = 15$  and  $XY = 10$ , find  $NP$ .



**$X$  and  $Y$  are midpoints of the sides.**



If  $NP = 13$  and  $MQ = 18$ , find  $XY$ .