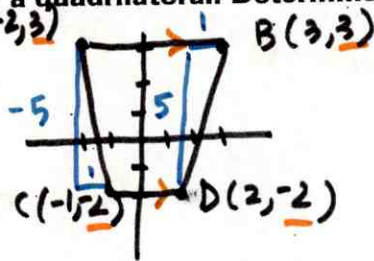


**LESSON 8.5 Practice**  
For use with pages 541-549

Points **A, B, C,** and **D** are the vertices of a quadrilateral. Determine whether **ABCD** is a trapezoid.

1.  $A(-2, 3), B(3, 3), C(-1, -2), D(2, -2)$

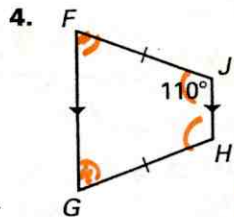


slope  $\overline{AB} : m = 0$   
 slope  $\overline{CD} : m = 0$   
 slope  $\overline{AC} : m = \frac{-5}{1}$   
 slope  $\overline{BD} : m = \frac{5}{1}$

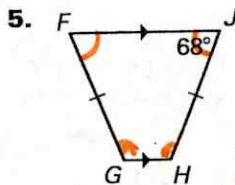
2.  $A(-3, 2), B(3, 0), C(4, 3), D(-2, 5)$

3.  $A(-5, -3), B(-1, -1), C(-1, 3), D(-3, 2)$

Find  $m\angle F, m\angle G,$  and  $m\angle H$ .



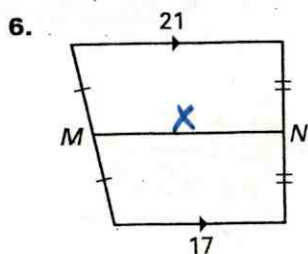
$m\angle H = 110^\circ$   
 $m\angle F = 180 - 110 = 70^\circ$   
 $m\angle G = 70^\circ$



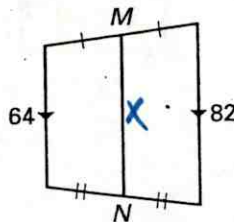
$m\angle F = 68^\circ$   
 $m\angle G = 180 - 68 = 112^\circ$   
 $m\angle H = 112^\circ$

midsegment =  $\frac{(b_1 + b_2)}{2}$

Find the length of the midsegment of the trapezoid.



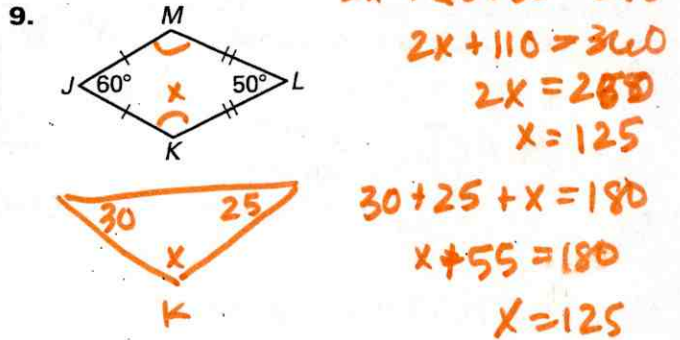
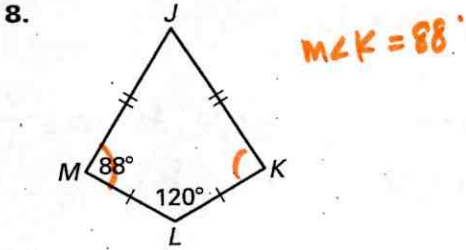
$x = \frac{(21 + 17)}{2}$   
 $x = \frac{38}{2}$   
 $x = 19$



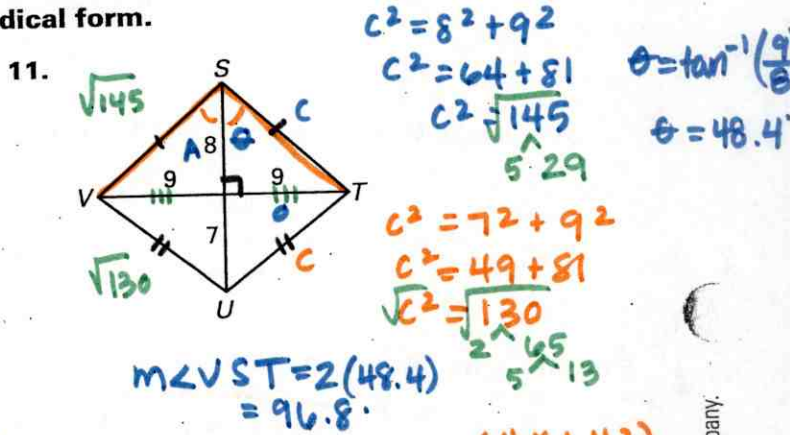
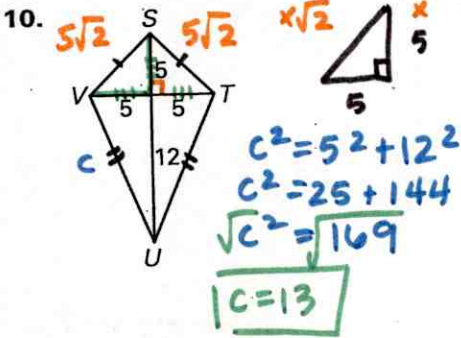
$x = \frac{(64 + 82)}{2}$   
 $x = \frac{146}{2}$   
 $x = 73$

**LESSON 8.5 Practice** *continued*  
For use with pages 541-549

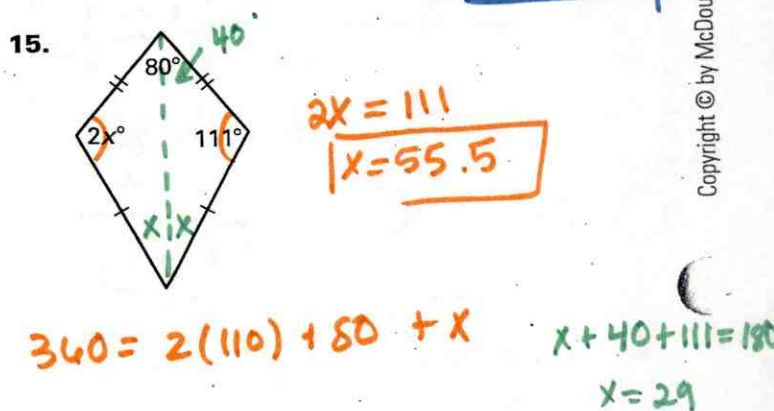
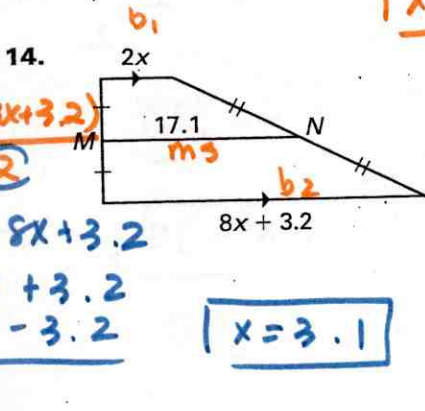
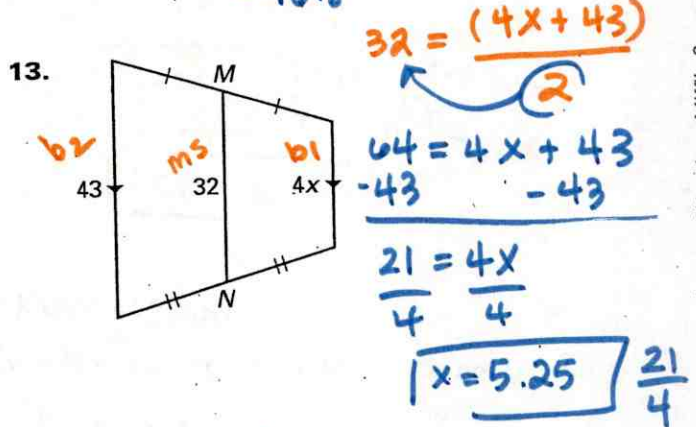
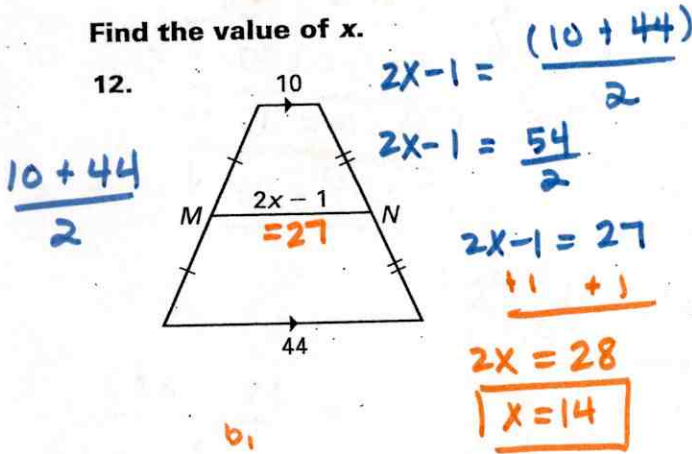
**JKLM is a kite. Find  $m\angle K$ .**



Use Theorem 8.18 and the Pythagorean Theorem to find the side lengths of the kite. Write the lengths in simplest radical form.



Find the value of  $x$ .

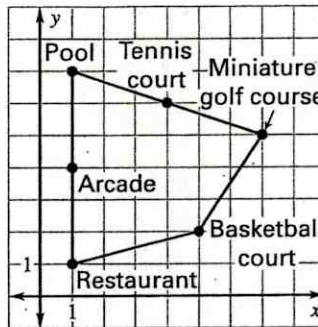




**LESSON 8.5**

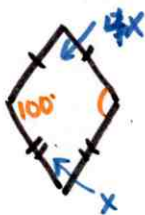
**Practice** *continued*  
For use with pages 541-549

**16. Maps** Use the map shown at the right. The lines represent a sidewalk connecting the locations on the map.



- Is the sidewalk in the shape of a kite? Explain.
- A sidewalk is built that connects the arcade, tennis court, miniature golf course, and restaurant. What is the shape of the sidewalk?
- What is the length of the midsegment of the sidewalk in part (b)?

**17. Kite** You cut out a piece of fabric in the shape of a kite so that the congruent angles of the kite are  $100^\circ$ . Of the remaining two angles, one is 4 times larger than the other. What is the measure of the largest angle in the kite?



$$x + 4x + 100 + 100 = 360$$

$$5x + 200 = 360$$

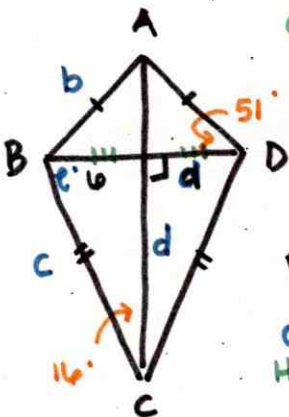
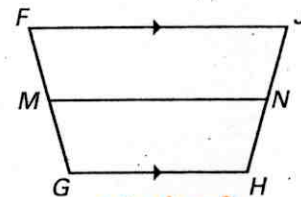
$$5x = 160$$

$$x = 32$$

$$4(32) = 128$$

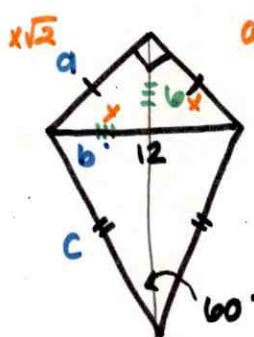
$$\angle = 144^\circ$$

**18. Proof**  $\overline{MN}$  is the midsegment of isosceles trapezoid  $FGHJ$ . Write a paragraph proof to show that  $FMNJ$  is an isosceles trapezoid.



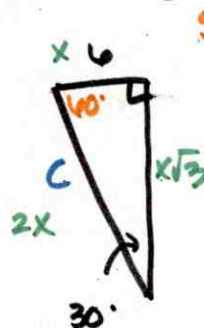
$$a = b$$

$$e = 90 - 16 = 74$$



$$a = 6\sqrt{2}$$

$$b = 60$$



SACATA

$$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{12}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$\frac{12\sqrt{2}}{2} = 6\sqrt{2}$$

$$c = 12$$

$$\cos(51) = \frac{b}{c} \quad \sin(16) = \frac{b}{c} \quad \tan(16) = \frac{b}{d}$$

$$b = \frac{c \cdot \cos(51)}{\sin(16)}$$

$$b = 9.5$$

$$c = \frac{b}{\sin(16)}$$

$$c = 21.8$$

$$d = \frac{b}{\tan(16)}$$

$$d = 20.9$$