

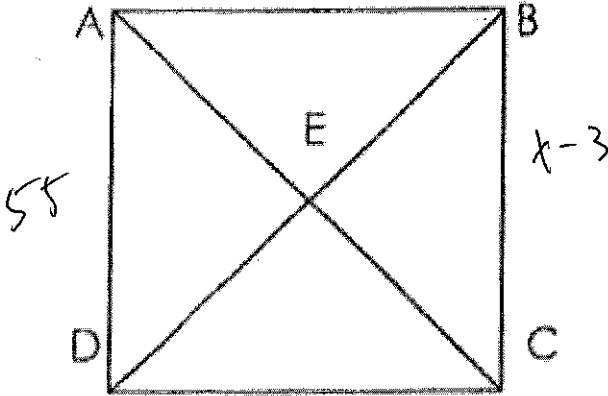
Key

Unit 4 Quiz 2 Review

Squares

Use square ABCD below for #1-3

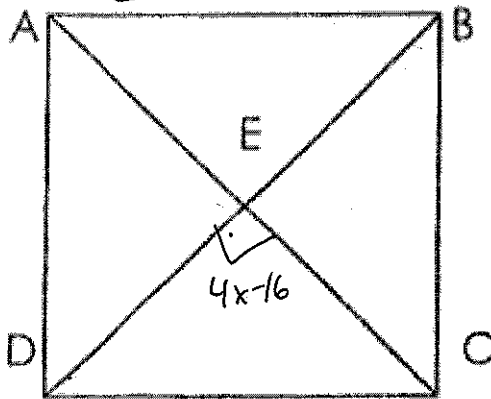
1. If $\overline{AD} = 55$ and $\overline{BC} = x - 3$; solve for x



$$55 = x - 3$$

$$x = 58$$

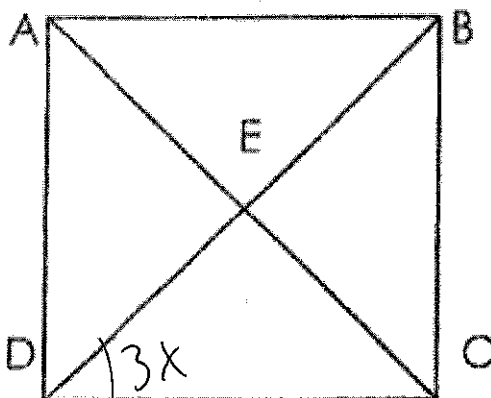
2. If $m\angle DEB = 4x - 16$; solve for x



$$\begin{array}{r} 4x - 16 = 90 \\ + 16 + 16 \\ \hline 4x = 106 \\ \frac{4x}{4} = \frac{106}{4} \end{array}$$

$$x = 26.5$$

3. If $m\angle EDC = 3x$; solve for x

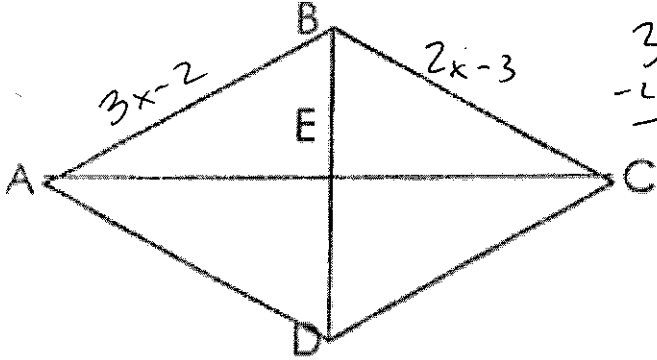
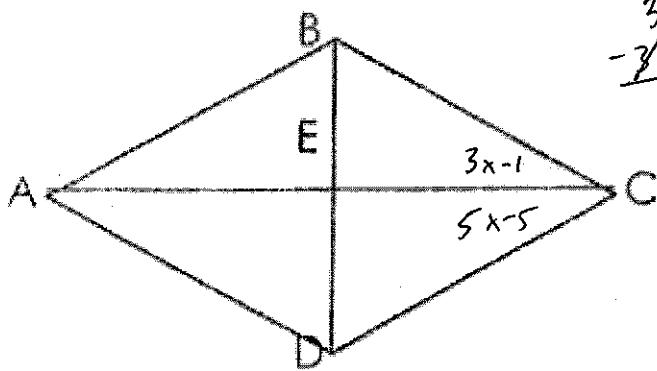
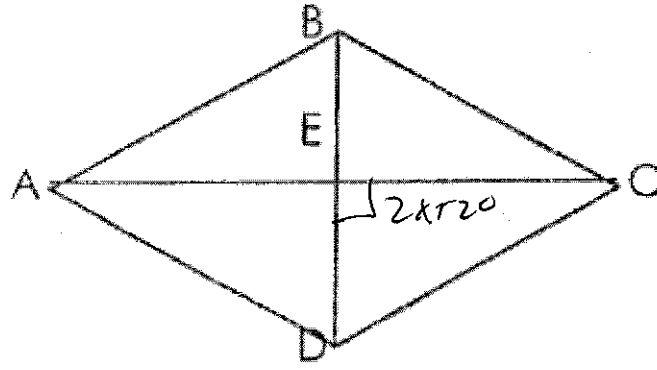


$$\frac{3x}{3} = \frac{45}{3}$$

$$x = 15$$

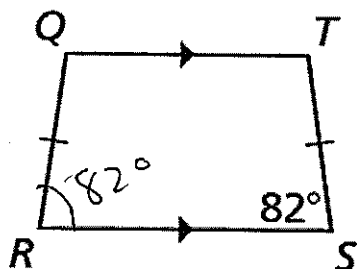
Rhombi

Use rhombus ABCD below to answer questions 4-6.

4.	<p>If $\overline{AB} = 3x - 2$ and $BC = 2x - 3$; solve for x</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="text-align: left;"> $\begin{array}{r} 3x - 2 = 2x - 3 \\ -x + 2 \quad -2x + 2 \\ \hline x = -1 \end{array}$ </div> </div>	$x = -1$
5.	<p>If $m\angle BCE = 3x - 1$ and $m\angle ECD = 5x - 5$; what is $m\angle ECD$? (hint: solve for x first)</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="text-align: left;"> $\begin{array}{r} 3x - 1 = 5x - 5 \\ -2x + 5 \quad -3x + 5 \\ \hline 4 = 2x \\ \frac{4}{2} = \frac{2x}{2} \end{array}$ </div> </div>	$x = 2$ $5(2) - 5$ $10 - 5$ $m\angle ECD = 5^\circ$
6.	<p>If $m\angle DEC = 2x + 20$; solve for x</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="text-align: left;"> $\begin{array}{r} 2x + 20 = 90 \\ -20 \quad -20 \\ \hline 2x = 70 \\ \frac{2x}{2} = \frac{70}{2} \end{array}$ </div> </div>	$x = 35$

Trapezoids

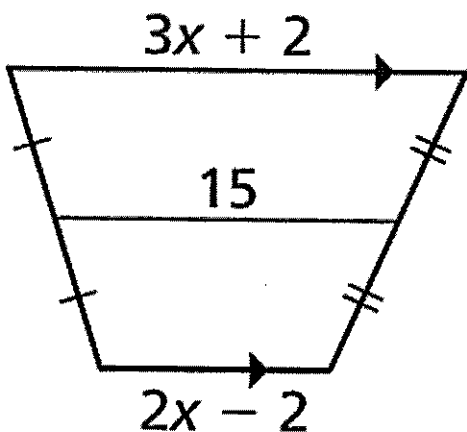
7.



QTSR is an isosceles trapezoid. Solve for $\angle SRQ$

82°

8.



$$\frac{3x+2+2x-2}{2} = 15$$

$$\frac{30}{5} = \frac{5x}{5}$$

$x=6$

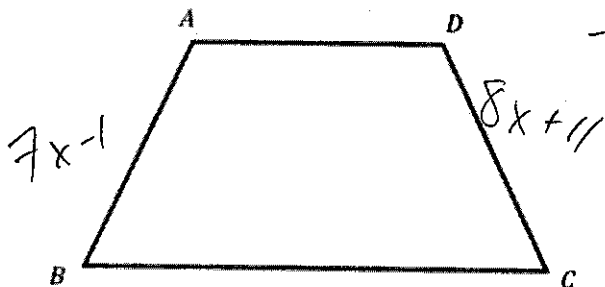
Solve for x in the isosceles trapezoid above

9.

Trapezoid ADCB below is an isosceles trapezoid.

If $AB=7x-1$ and $DC=8x+11$; solve for x ;

Can you solve for AD? Why or why not?



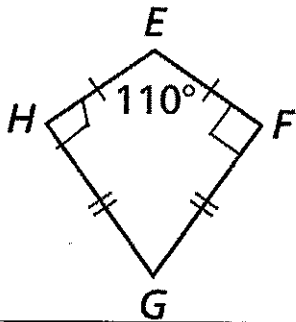
$$\begin{array}{r} 7x-1 = 8x+11 \\ -7x-11 \quad -7x+11 \\ \hline -12 = x \end{array}$$

$x=-12$

No,
Not
enough
info

Kites

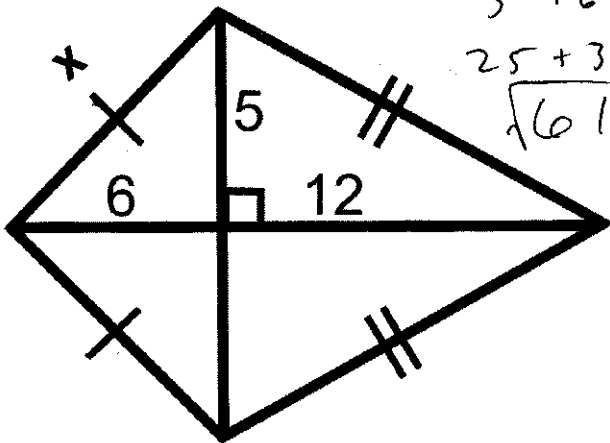
10. Find $m\angle EHG$
Using the fact that there are 360° total in a quadrilateral, now solve for $\angle HGF$



$$\begin{aligned} 110 + 90 + 90 + x &= 360 \\ 290 + x &= 360 \\ -290 &\quad -290 \\ \hline x &= 70 \end{aligned}$$

70°

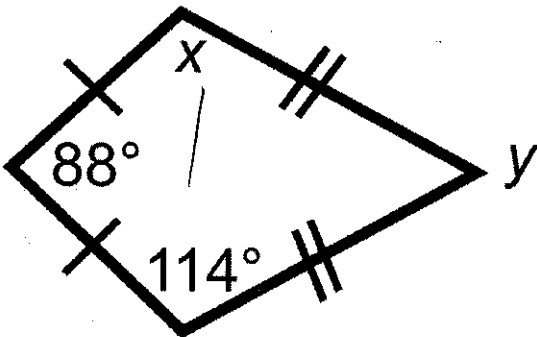
11. In the kite below, solve for x :



$$\begin{aligned} 5^2 + 6^2 &= c^2 \\ 25 + 36 &= c^2 \\ \sqrt{61} &= c \end{aligned}$$

$x = \sqrt{61}$

12. Solve for angle x :



$x = 114^\circ$