

Quiz Review

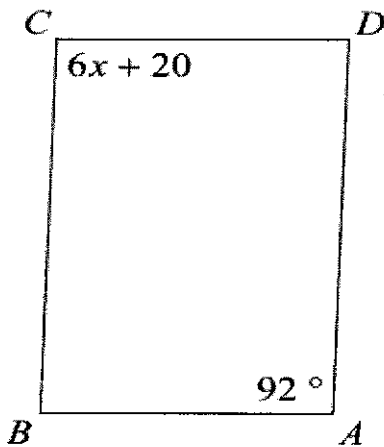
Key

Properties of Parallelograms

1. Opposite angles of a parallelogram are congruent.
2. Opposite sides of a parallelogram are congruent.
3. Consecutive angles in a parallelogram are supplementary.
4. The diagonals of a parallelogram bisect ea. other.

Every shape below is a parallelogram.

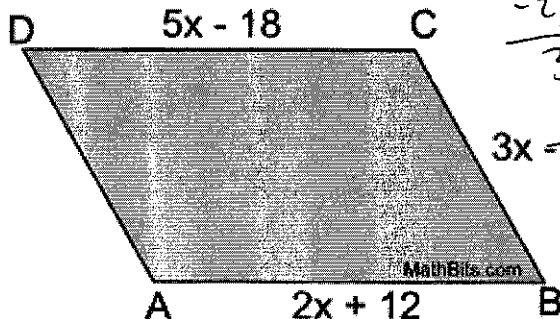
1. Solve for x:



$$\begin{array}{r} 6x + 20 = 92 \\ -20 \quad -20 \\ \hline 6x = 72 \\ \frac{6x}{6} = \frac{72}{6} \\ x = 12 \end{array}$$

$x = \underline{12}$

2. Solve for x, then solve for side CB



$$\begin{array}{r} 5x - 18 = 2x + 12 \\ -2x \quad -2x \\ \hline 3x - 18 = 12 \\ +18 \quad +18 \\ \hline 3x - 6 = 30 \\ \frac{3x}{3} = \frac{30}{3} \\ x = 10 \end{array}$$

$x = \underline{10}$

$CB = \underline{24}$

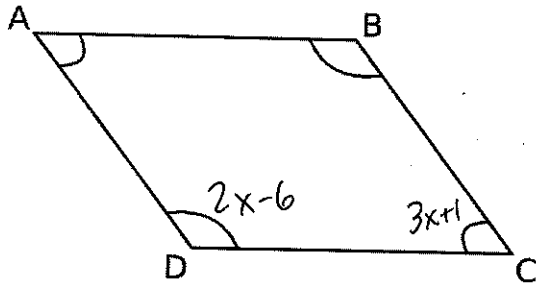
$CB: 3x - 6 = 3(10) - 6 = 24$

3.

$$m \angle ADC = 2x - 6$$

$$m \angle DCB = 3x + 1$$

solve for x



$$2x - 6 + 3x + 1 = 180$$

$$5x - 5 = 180$$

$$\frac{5x - 5}{5} = \frac{180}{5} \quad x = 37$$

$$x = \underline{37}$$

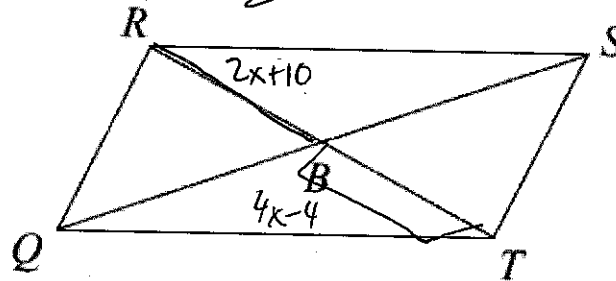
4.

Solve for x

$$RB = 2x + 10$$

$$BT = 4x - 4$$

$$\begin{array}{r} 2x + 10 = 4x - 4 \\ -2x \quad +4 -2x \quad +4 \\ \hline 14 = 2x \\ \frac{14}{2} = \frac{2x}{2} \quad x = 7 \end{array}$$



$$x = \underline{7}$$

Rectangle Characteristics

Has all the properties of a parallelogram

Has 4 90°/right angles

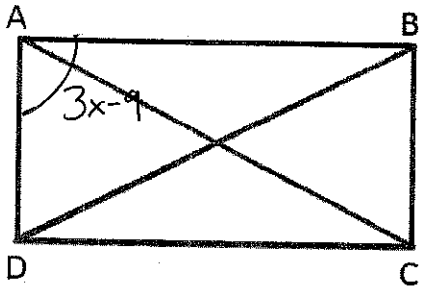
Diagonals are congruent

Isosceles triangles

All shapes 5-8 are rectangles

5.

$m \angle DAB = 3x - 9$
solve for x

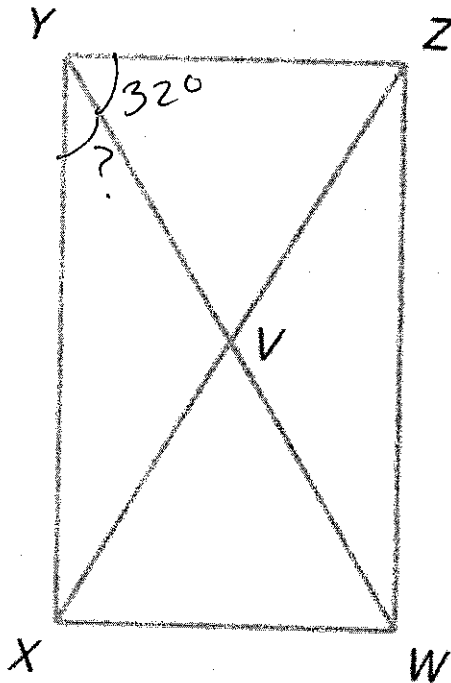


$$\begin{aligned} 3x - 9 &= 96 \\ +9 &+9 \\ \hline 3x &= 99 \\ \frac{3x}{3} &= \frac{99}{3} \\ x &= 33 \end{aligned}$$

$x = 33$

6.

$m \angle VYZ = 32^\circ$
What is the $m \angle XYV$?



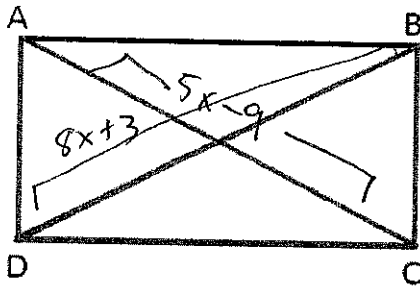
$$\begin{aligned} 32 + x &= 96 \\ -32 &-32 \\ \hline x &= 58 \end{aligned}$$

$m \angle XYV = \underline{58^\circ}$

7.

$AC = 5x - 9$
 $BD = 8x + 3$
Solve for x

$x = \underline{\hspace{2cm}}$

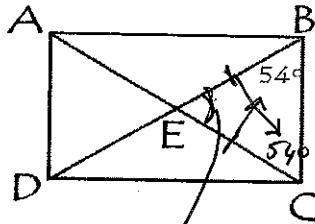


$$\begin{aligned}
 5x - 9 &= 8x + 3 \\
 +9 & \quad +9 \\
 \hline
 5x &= 8x + 12 \\
 -8x & \quad -8x \\
 \hline
 -3x &= 12 \\
 \frac{-3x}{-3} &= \frac{12}{-3}
 \end{aligned}$$

$$x = -4$$

8.

Solve for $m \angle ACB$ and $m \angle CEB$



$$54 + 54 + x = 180$$

$$\begin{aligned}
 108 + x &= 180 \\
 -108 & \quad -108 \\
 \hline
 x &= 72
 \end{aligned}$$

$$\begin{aligned}
 m \angle ACB \\
 &= \underline{54^\circ}
 \end{aligned}$$

$$\begin{aligned}
 m \angle CEB \\
 &= \underline{72^\circ}
 \end{aligned}$$