

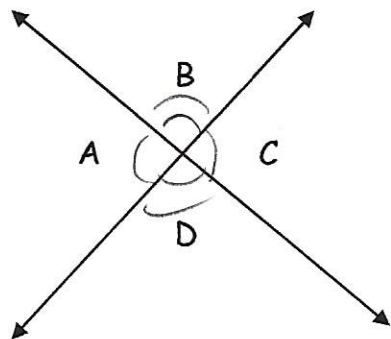
Vertical Angles

I. Definition:

- Angles that are formed opposite (across) from one another when two lines intersect.

II. Notes:

- Vertical angles share a common vertex, not a common ray.
- Vertical angles are congruent in measure.
 - \cong is the symbol for congruent. *means equal*
- Ex:



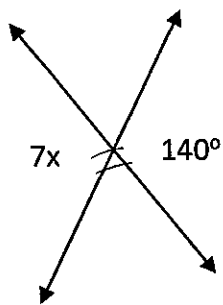
$$\underline{m\angle A \cong m\angle C}$$

$$\underline{m\angle B \cong m\angle D}$$

III. Practice:

<p>1. Solve for x.</p> <p style="text-align: center;">$x = 40^\circ$</p>	<p>2. Solve for x.</p> <p style="text-align: center;">$\frac{3x}{3} = \frac{60}{3}$</p> <p style="text-align: center;">$x = 20$</p>	<p>3. Solve for x.</p> <p style="text-align: center;"> $4x + 3 = 2x + 13$ $\quad -2x \quad -2x$ <hr style="width: 50%; margin: 0 auto;"/> $2x + 3 = 13$ $\quad -3 \quad -3$ <hr style="width: 50%; margin: 0 auto;"/> $2x = 10$ $\quad \div 2 \quad \div 2$ $x = 5$ </p>
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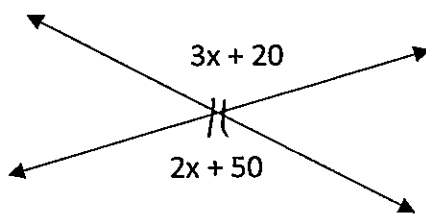
4. Solve for x.



$$\frac{7x}{7} = \frac{140}{7}$$

$$x = 20$$

5. Solve for x.

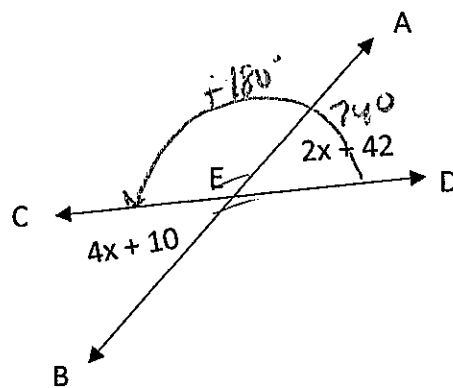


$$\begin{array}{r} 3x + 20 = 2x + 50 \\ -2x \quad -2x \\ \hline \end{array}$$

$$\begin{array}{r} x + 20 = 50 \\ -20 \quad -20 \\ \hline \end{array}$$

$$x = 30$$

6. Solve for x.



$$\begin{array}{r} 4x + 10 = 2x + 42 \\ -2x \quad -2x \\ \hline \end{array}$$

$$\begin{array}{r} 2x + 10 = 42 \\ -10 \quad -10 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{32}{2}$$

$$x = 16$$

Ticket Questions!

1) Using the information in question number 6, what would be $m\angle AED$?

$$m\angle AED = 2x + 42$$

$$m\angle AED = 2(16) + 42$$

$$m\angle AED = 32 + 42$$

$$m\angle AED = 74$$

2) Using the information in question number 6 and your prior knowledge of angles, what would be $m\angle CEA$?

$$\begin{array}{r} 180 \\ -74 \\ \hline 106 \end{array}$$

$$m\angle CEA = 106$$