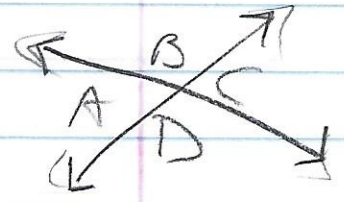
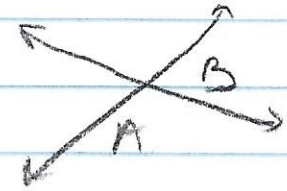
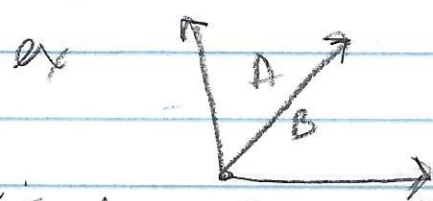


Pairs of Angles

I. Adjacent Angle (Next to) angles that have the same vertex and a common side between them.



* They must be connected



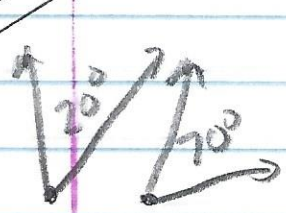
* $\angle A + \angle B$ are adjacent to each other.

II Complementary angles

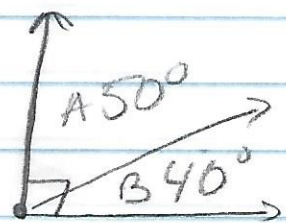
* You can make C into a 9 for 90°

two angles whose combined measurements ADD UP to 90° (rt. \angle)

* Complement

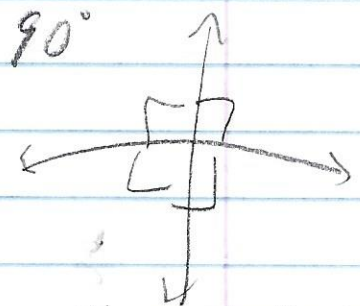


Not-adjacent



adjacent

$$50 + 40 = 90$$

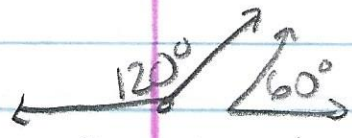


III Supplementary angles

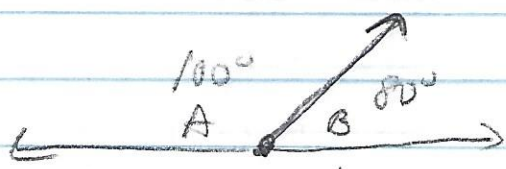
* You can make an S into an \angle for 180°

* Supplement

two angles whose combined measurements ADD UP to 180° (straight \angle)



Not-adjacent



adjacent

$$100 + 80 = 180$$

Name: Key
Mrs. Roubos

Date: _____
8R Period _____

PAIRS OF ANGLES

+90°

I. Write the measure of the complement of each angle:

$$1) 40^\circ \begin{array}{r} 90 \\ -40 \\ \hline 50^\circ \end{array}$$

$$2) 25^\circ \begin{array}{r} 90 \\ -25 \\ \hline 65^\circ \end{array}$$

$$3) 68.5^\circ \begin{array}{r} 90 \\ -68.5 \\ \hline 21.5^\circ \end{array}$$

II. Write the measure of the supplement of each angle:

$$1) 50^\circ \begin{array}{r} 180 \\ -50 \\ \hline 130^\circ \end{array}$$

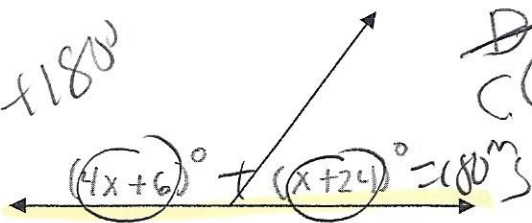
$$2) 110^\circ \begin{array}{r} +180^\circ \\ 180 \\ -110 \\ \hline 70^\circ \end{array}$$

$$3) 125^\circ \begin{array}{r} 180 \\ -125 \\ \hline 55^\circ \end{array}$$

III. Solve for x

1)

Supp +180°



$$4x+6 + x+24 = 180$$

$$(4x+x) + 6+24 = 180$$

$$5x + 30 = 180$$

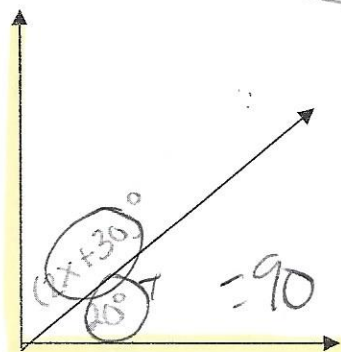
$$\begin{array}{r} 5x + 30 = 180 \\ -30 \quad -30 \\ \hline 5x = 150 \end{array}$$

$$\frac{5x}{5} = \frac{150}{5}$$

$$x = 30$$

2)

Comp. +90°



$$2x+30 + 20 = 90$$

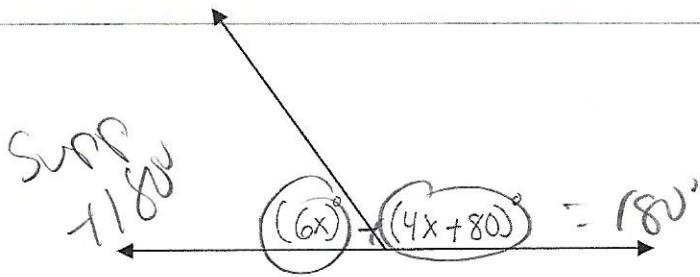
$$2x + 50 = 90$$

$$\begin{array}{r} 2x + 50 = 90 \\ -50 \quad -50 \\ \hline 2x = 40 \end{array}$$

$$\frac{2x}{2} = \frac{40}{2}$$

$$x = 20$$

3)



$$6x + 4x + 80 = 180$$

$$\begin{array}{r} 10x + 80 = 180 \\ -80 \quad -80 \\ \hline 10x = 100 \end{array}$$

$$\begin{array}{r} 10x = 100 \\ \underline{10} \quad \underline{10} \\ x = 10 \end{array}$$

$$x = 10$$

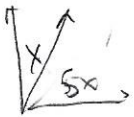
IV. Find the measure of each angle if angle A and angle B are complementary

1) Angle A = x , Angle B = $5x$

$$x + 5x = 90$$

$$\frac{6x}{6} = \frac{90}{6}$$

$$x = 15$$



$$\begin{array}{l} m\angle A = x \\ m\angle A = 15^\circ \end{array}$$

$$\begin{array}{l} m\angle B = 5x \\ m\angle B = 5(15) \\ m\angle B = 75^\circ \end{array}$$

2) Angle B = y , Angle A = $2y + 30$

$$y + 2y + 30 = 90$$

$$\begin{array}{r} 3y + 30 = 90 \\ -30 \quad -30 \\ \hline 3y = 60 \end{array}$$

$$\frac{3y}{3} = \frac{60}{3}$$

$$y = 20$$



$$\begin{array}{l} m\angle A = 2y + 30 \\ m\angle A = 2(20) + 30 \\ m\angle A = 40 + 30 \\ m\angle A = 70^\circ \end{array}$$

$$\begin{array}{l} m\angle B = y \\ m\angle B = 20^\circ \end{array}$$

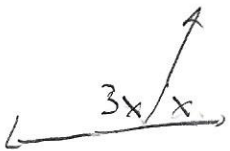
Find the measure of each angle if angle A and angle B are supplementary

1) Angle A = x , Angle B = $3x$

$$x + 3x = 180$$

$$\frac{4x}{4} = \frac{180}{4}$$

$$x = 45$$



$$\begin{array}{l} m\angle A = x \\ m\angle A = 45^\circ \end{array}$$

$$\begin{array}{l} m\angle B = 3x \\ m\angle B = 3(45) \\ m\angle B = 135^\circ \end{array}$$

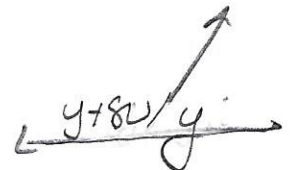
2) Angle B = y , Angle A = $y + 80$

$$y + y + 80 = 180$$

$$\begin{array}{r} 2y + 80 = 180 \\ -80 \quad -80 \\ \hline 2y = 100 \end{array}$$

$$\frac{2y}{2} = \frac{100}{2}$$

$$y = 50$$



$$\begin{array}{l} m\angle A = y + 80 \\ m\angle A = 50 + 80 \\ m\angle A = 130^\circ \end{array}$$

$$\begin{array}{l} m\angle B = y \\ m\angle B = 50^\circ \end{array}$$