

Simultaneous Round Table

Name _____

Everyone has a Paper—Work at the Same Time—Pass at the Same Time

- 1) Find the distance between the two points.

$$\begin{aligned} A(-7, 2) \quad d &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\ B(3, 0) \end{aligned}$$

$$= \sqrt{(-7 - 3)^2 + (2 - 0)^2}$$

$$\begin{aligned} AB &= \sqrt{104} = 2\sqrt{26} \\ &\approx 10.2 \end{aligned}$$

$$\begin{aligned} &\sqrt{(-10)^2 + (2)^2} \\ &\sqrt{100 + 4} \end{aligned}$$

$$d = \sqrt{104} \approx 10.2 \text{ units}$$

- 2) Find the midpoint of the two points below.

$$\begin{aligned} A(-7, 2) \quad m &= \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) \\ B(3, 0) \end{aligned}$$

$$= \left(\frac{-7+3}{2}, \frac{2+0}{2} \right)$$

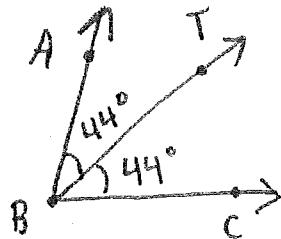
$$\text{midpoint: } (-2, 1)$$

$$\left(\frac{-4}{2}, \frac{2}{2} \right)$$

- 3) \overrightarrow{BT} bisects $\angle ABC$.

If $m\angle ABT = 44^\circ$, find $m\angle TBC$ and $m\angle ABC$.

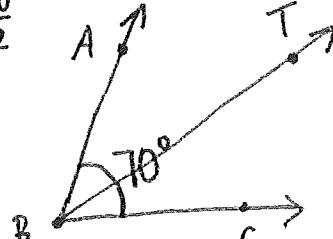
$$\begin{aligned} m\angle TBC &= 44^\circ \\ m\angle ABC &= 88^\circ \end{aligned}$$



- 4) \overrightarrow{BT} bisects $\angle ABC$.

If $m\angle ABC = 70^\circ$, find $m\angle TBC$ and $m\angle ABT$. half half

$$\begin{aligned} m\angle TBC &= 35^\circ \\ m\angle ABT &= 35^\circ \end{aligned}$$



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- 5) $\angle A$ and $\angle B$ are supplementary. Find the $m\angle A$ and $m\angle B$.

$$m\angle A + m\angle B = 180$$

$$m\angle A = 40$$

$$m\angle B = 3x + 20$$

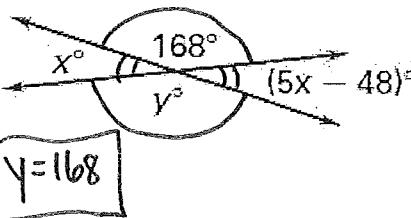
$$x = 40$$

$$m\angle A = 40^\circ$$

$$m\angle B = 140^\circ$$

$$\begin{aligned} 40 + 3x + 20 &= 180 \\ 60 + 3x &= 180 \\ -60 & \quad -60 \\ 3x & \quad 120 \\ \hline x & = 40 \end{aligned}$$

- 6) Find the value of x and y .



$$\begin{aligned} 168 + x &= 180 \\ -168 & \quad -168 \\ x &= 12 \end{aligned}$$

- 7) Find the values of x and y .

$$\begin{aligned} 70^\circ & \quad 2(31) + 8 \\ (2x + 8)^\circ & \quad (3x + 17)^\circ \\ Y^\circ & \quad \end{aligned}$$

$$2x + 8 + 3x + 17 = 180$$

$$5x + 25 = 180$$

$$\begin{array}{r} -25 \\ \hline 5x \\ \hline 155 \\ \hline 5 \end{array}$$

$$x = 31$$

- 8) $\angle A$ and $\angle B$ are complementary. Find the $m\angle A$ and $m\angle B$.

$$m\angle A = 2x + 10$$

$$m\angle B = 3x$$

$$= 3(16) = 48$$

$$x = 16$$

$$m\angle A = 42^\circ$$

$$m\angle B = 48^\circ$$

$$2x + 10 + 3x = 90$$

$$5x + 10 = 90$$

$$\begin{array}{r} -10 \\ \hline 5x \\ \hline 80 \\ \hline 5 \end{array}$$

$$x = 16$$

$$m\angle A = 2(16) + 10 \rightarrow 42^\circ$$