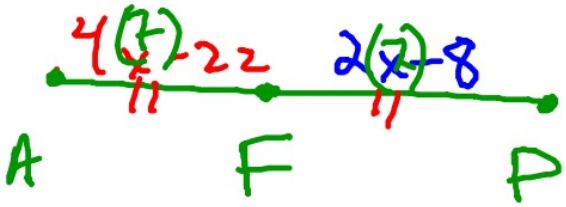
Good afternoon: warm up in notebooks

Point F is the midpoint of $\overline{AP}$. If FA = 4x-22 and FP=2x-8, find the length of $\overline{AP}$.




$4(7)-22 = 6$ $\quad 2(7)-8 = 6$ $\quad 6 + 6 = 12$

$4x-22 = 2x-8$

$-2x+22 \quad -2x+22$

$\frac{2x}{2} = \frac{14}{2} \Rightarrow x = 7$

Sit in your old seats for now, will change after hw

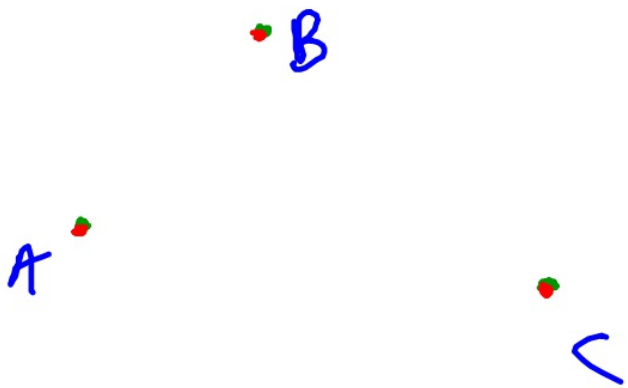
Reminders

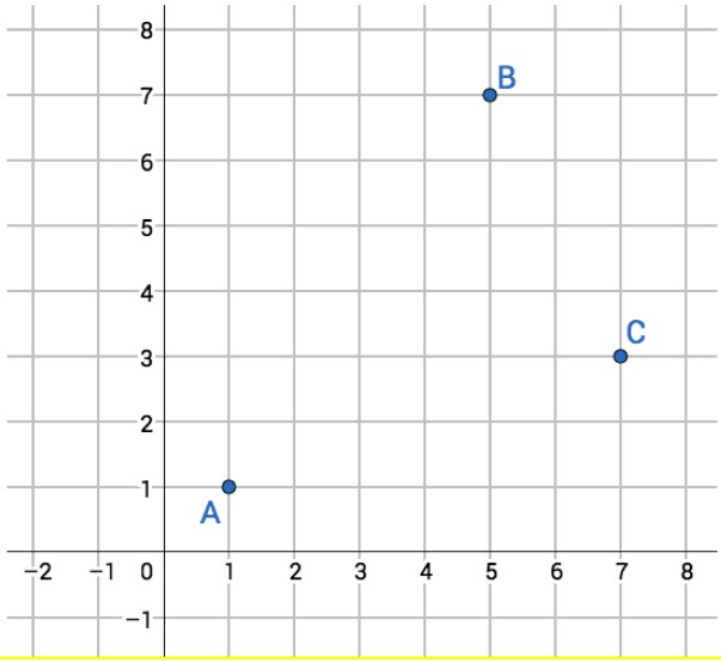
no tutoring this week (sorry)

Retakes available any DS except Weds

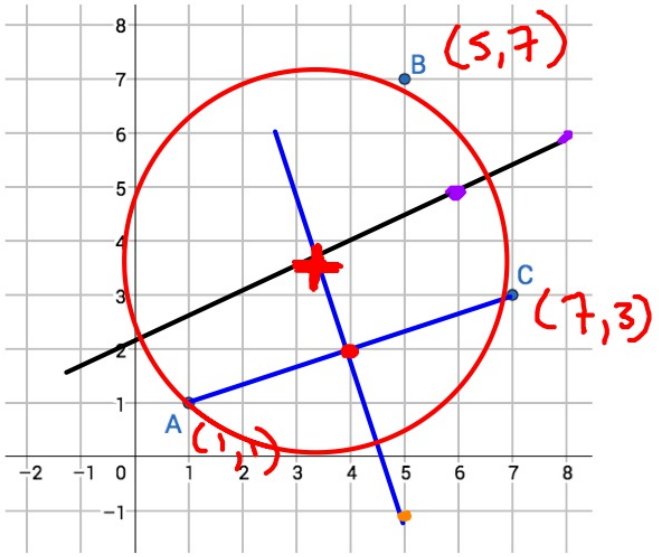
Next assess: next class

# Visibly Random Grouping






Astana, Bogota, and Conakry are three cities that are in need of a new hospital. It should be placed at a location equidistant to all 3 cities.




1. Write down the coordinates of your best estimate of where the hospital should be built.

slope $m = \frac{y_2 - y_1}{x_2 - x_1}$

2. Find the coordinates for the midpoint of $\overline{AC}$.

$(4,2)$

$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$ midpoint

3. Find the slope of $\overline{AC}$.

$\frac{2}{6} \rightsquigarrow \frac{1}{3}$

4. Find the slope of a line perpendicular to $\overline{AC}$.

$-\frac{3}{1} \Rightarrow -3$

5. The equation of a line with slope $m$ through a point $(x_1, y_1)$ can be written as $y - y_1 = m(x - x_1)$. Use this to write the equation of $\overline{AC}$'s perpendicular bisector, then solve it for $y$.

$y - y_1 = m(x - x_1)$ $\quad m = -3 \quad (4,2)$

$y - 2 = -3(x - 4) \Rightarrow$

Point-slope

$y = -3x + 14$

6. Graph the equation from step 5 onto the diagram.

7. Repeat steps 2-6 for $\overline{BC}$ in order to write the eq. of the perpendicular bisector of $\overline{BC}$

$(6,5) \quad m = -\frac{2}{1} \Rightarrow 1\frac{1}{2}$

$y - y_1 = m(x - x_1) \Rightarrow$

$y - 5 = \frac{1}{2}(x - 6)$

$y = \frac{1}{2}x + 2$

$y = -3x + 14$

$y = \frac{1}{2}x + 2$

HW:

complete practice assessment, check detailed solutions at mgeo.weebly.com to help study! (posted by 5pm)

assessing next class!