Mathematics 10D

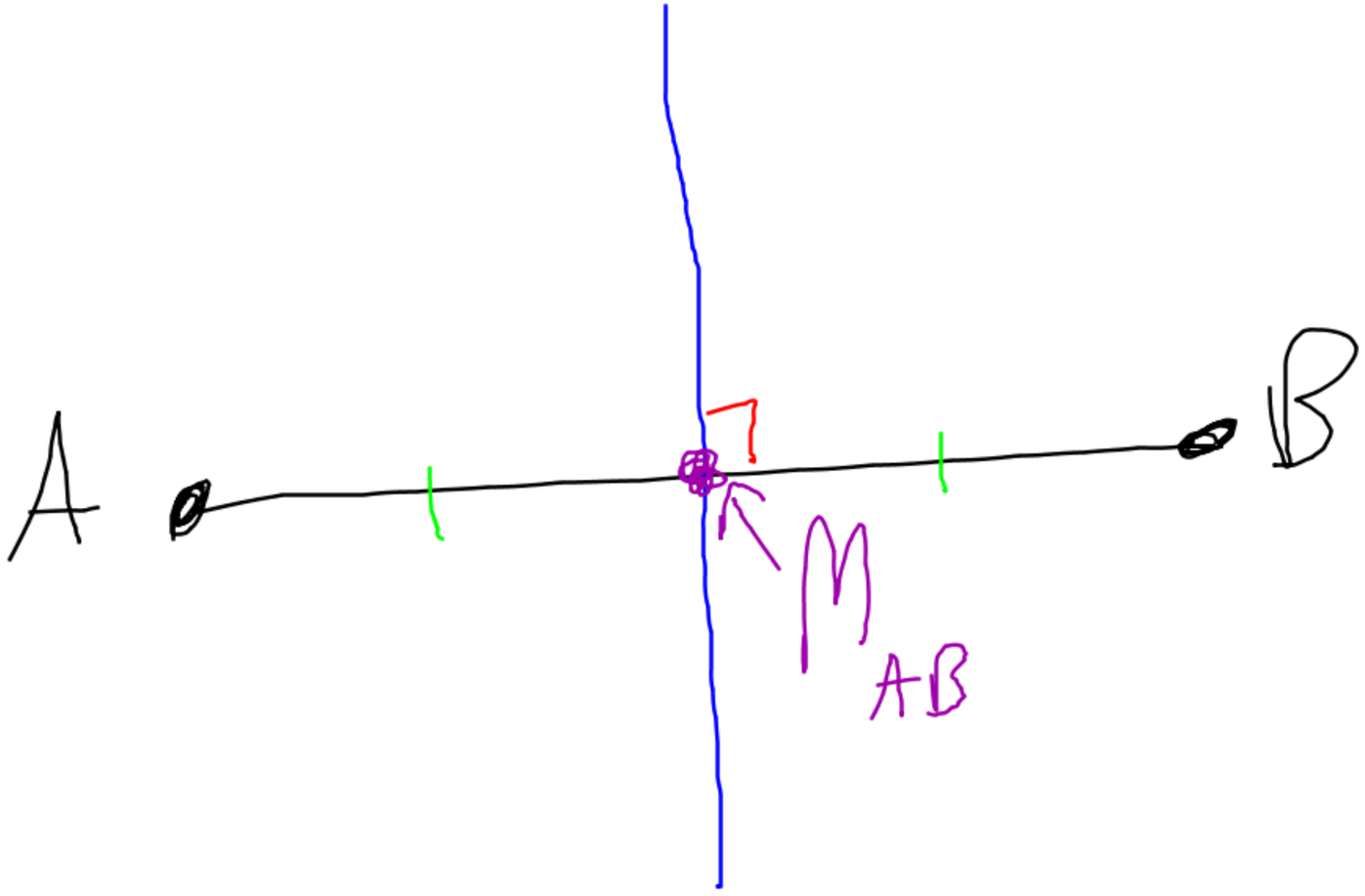
Example of pg 80 #13

Mr. D. Hagen

Given A(-8,3) and B(6,9), find the equation of the line to the perpendicular bisector.

$y = mx + b$

slope, y-int



1. Find M_{AB}
2. find $m_{AB} \Rightarrow m_{\perp}$
3. find $y = mx + b$

Given A(-8,3) and B(6,9), find the equation of the line to the perpendicular bisector.

1. $M_{AB}\left(\frac{-8+6}{2}, \frac{3+9}{2}\right) \Rightarrow M_{AB}(-1,6)$

2. $m_{AB}: \frac{y_2-y_1}{x_2-x_1} = \frac{9-3}{6+8} = \frac{6}{14} = \frac{3}{7} \quad \therefore m_{\perp} = \frac{-7}{3}$

3. $y = mx+b$

$6 = \frac{-7}{3}(-1)+b$

$6-\frac{7}{3} = b$

$\frac{18}{3}-\frac{7}{3} = b$

$\frac{11}{3} = b$

$\therefore y = \frac{-7}{3}x+\frac{11}{3}$

$\perp$ bisector