Subject: Session 1 Problems
Year. Month. Date. ( )

1. a) $\underbrace{\langle 0,-3\rangle}_{\text{the River}} + \underbrace{\langle x,3\rangle}_{\text{the Row}} = \underbrace{\langle y,0\rangle}_{\text{straight Path}}$

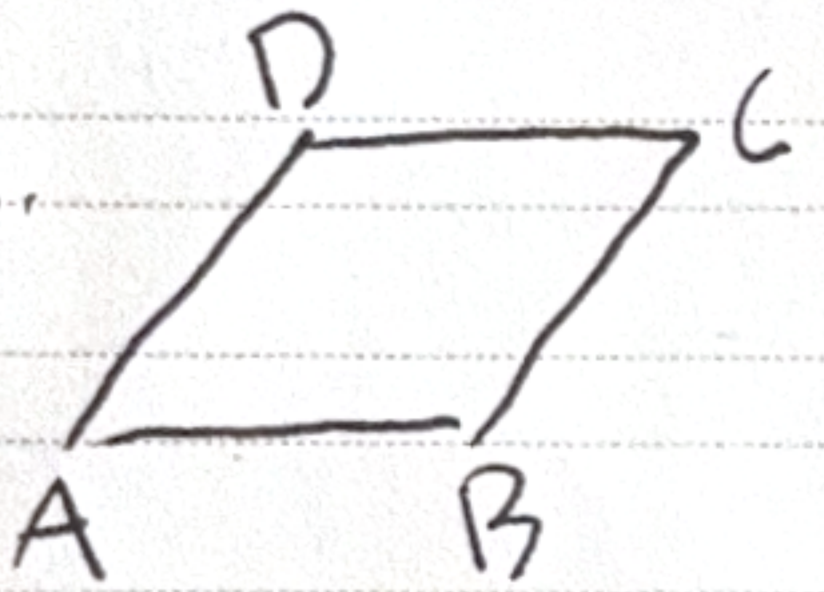
$x^2+3^2=6^2 \Rightarrow x=3\sqrt{3}$

the Row $=3\sqrt{3}$

b) $\langle 0,-6\rangle + \langle x,6\rangle = \langle y,0\rangle$

$x^2+6^2=3^2 \rightarrow$ there is no way

2. $2^2+3^2=13 \rightarrow \langle \frac{2}{13}, \frac{3}{13}\rangle$

3. 

M_1 is mid AC & M_2 is mid BD

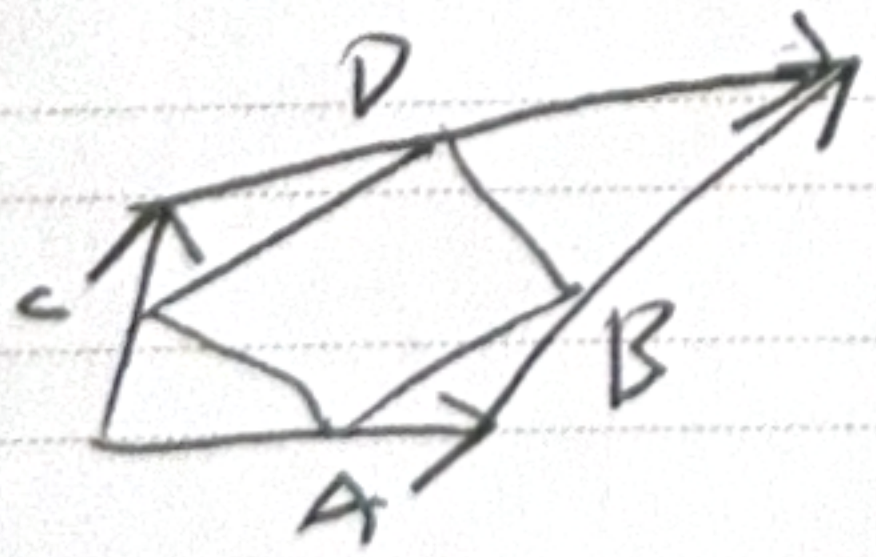
we need to show $AM_1 = AM_2$

$\overrightarrow{AB} = \frac{1}{2}\overrightarrow{AB} + \frac{1}{2}\overrightarrow{AB} = \frac{1}{2}\overrightarrow{AB} + \frac{1}{2}\overrightarrow{DC}$

$\overrightarrow{AM_1} = \frac{1}{2}\overrightarrow{AC}$

$\overrightarrow{AM_2} = \overrightarrow{AB} + \frac{1}{2}\overrightarrow{BD} = \frac{1}{2}\overrightarrow{AB} + \frac{1}{2}\overrightarrow{DC} + \frac{1}{2}\overrightarrow{BD} = \frac{1}{2}\overrightarrow{AC}$

4. $A+B$



$A+B = C+D \Rightarrow C-A = B-D \Rightarrow \frac{1}{2}(C-A) = \frac{1}{2}(B-D)$