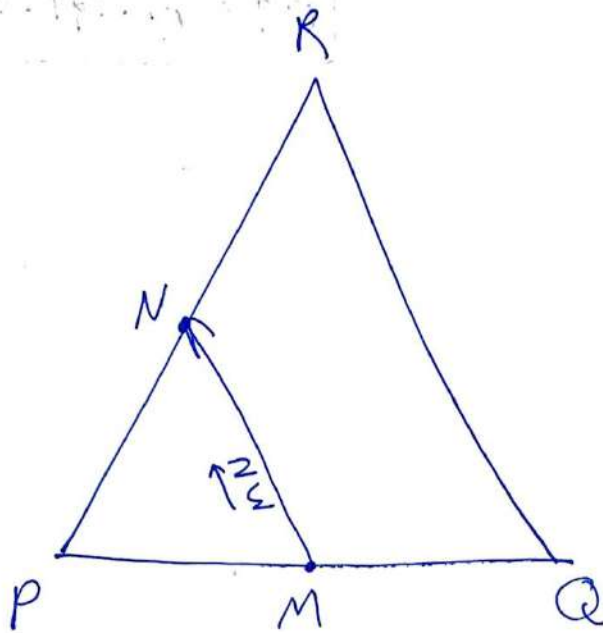


3)



$$M = \frac{P+Q}{2}$$

$$N = \frac{P+R}{2}$$

$$\overrightarrow{MN} = N - M$$

$$\overrightarrow{MN} = \frac{P+R}{2} - \frac{P+Q}{2}$$

$$\overrightarrow{MN} = \frac{R-Q}{2}$$

$$\overrightarrow{QR} = R - Q$$

$$\frac{1}{2} \cdot \overrightarrow{QR} = \overrightarrow{MN}$$