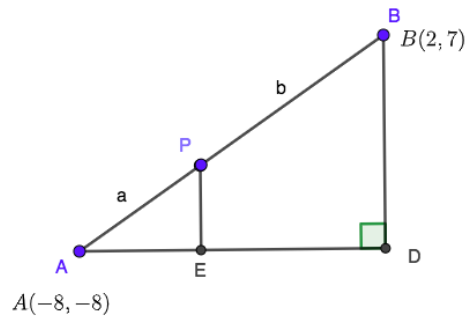


Partitioning a Segment—a specific case



Find the coordinates of Point P that partitions segment AB in a 2:3 ratio.

$$\frac{AP}{BP} = \frac{a}{b} = \frac{2}{3}$$

- 1) Find the coordinates of Point D.
- 2) Find the distances AD and BD.
- 3) What is the relationship between Triangle AEP and Triangle ADB?

4) $\frac{AP}{AB} = \frac{a}{a+b} = \frac{2}{5}$. Why?

PE has to be in the same ratio to BD as AP is to AB. $\frac{PE}{BD} = \frac{2}{5}$

- 5) Solve for PE.

AE has to be in the same ratio to AD as AP is to AB. $\frac{AE}{AD} = \frac{2}{5}$

6) Solve for AE.

7) What are the coordinates of E and P?