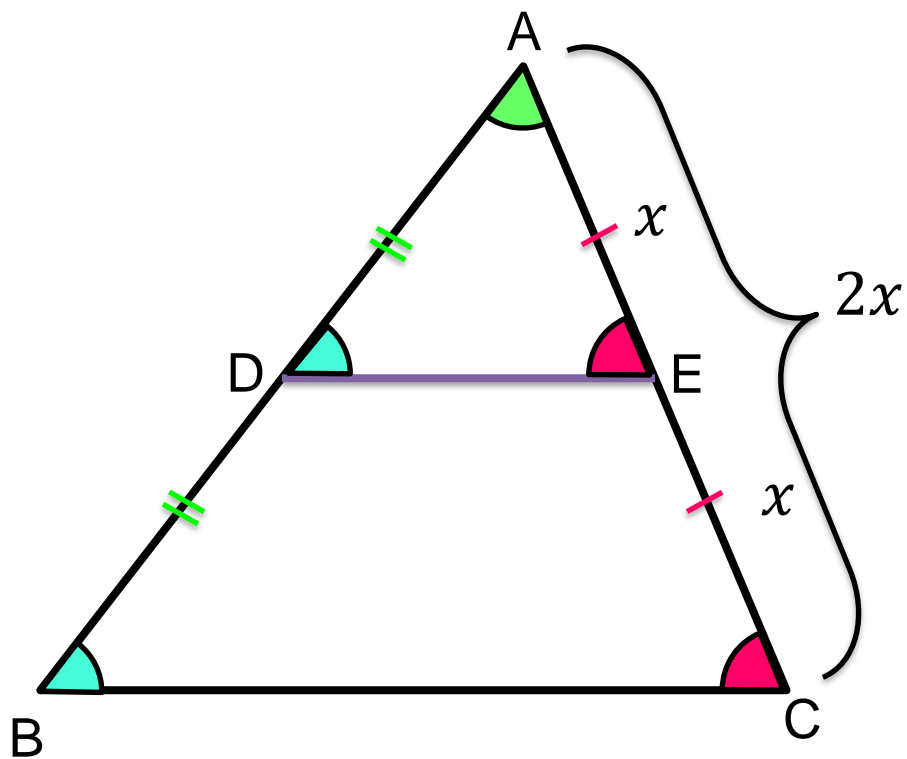


Base média

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Base média

Base média de Triângulo:



$$\frac{\overline{AC}}{\overline{AE}} = \frac{\overline{BC}}{\overline{DE}}$$

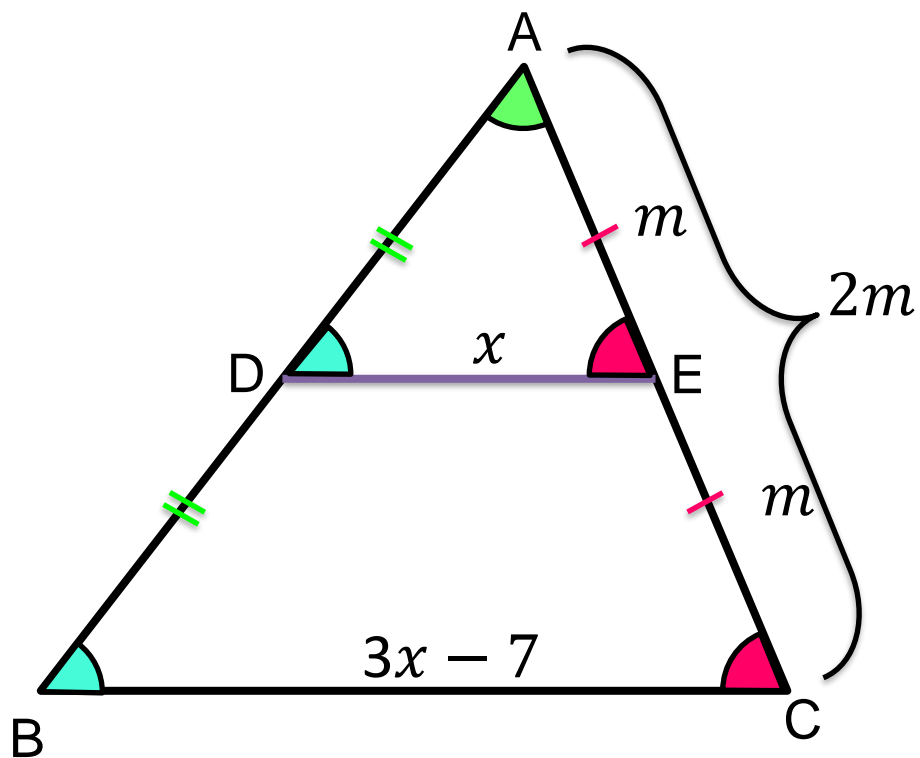
$$\frac{2x}{x} = \frac{\overline{BC}}{\overline{DE}}$$

$$2\overline{DE} = \overline{BC}$$

$$\boxed{\overline{DE} = \frac{\overline{BC}}{2}}$$

Base média

Exemplo: No triângulo ABC da figura a seguir, D e E são pontos médios, respectivamente, dos lados AB e AC. O valor de x é:



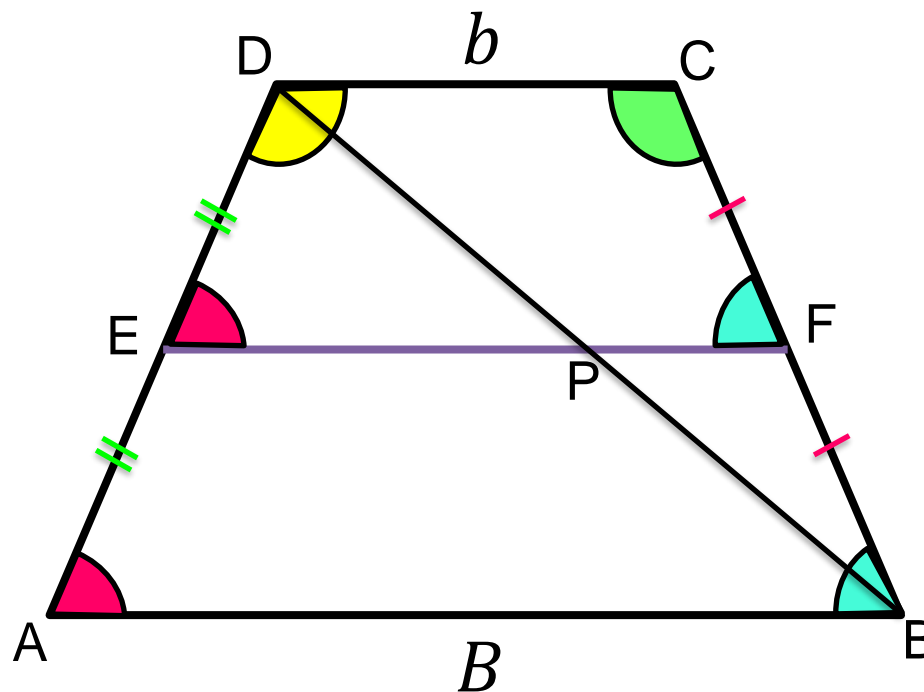
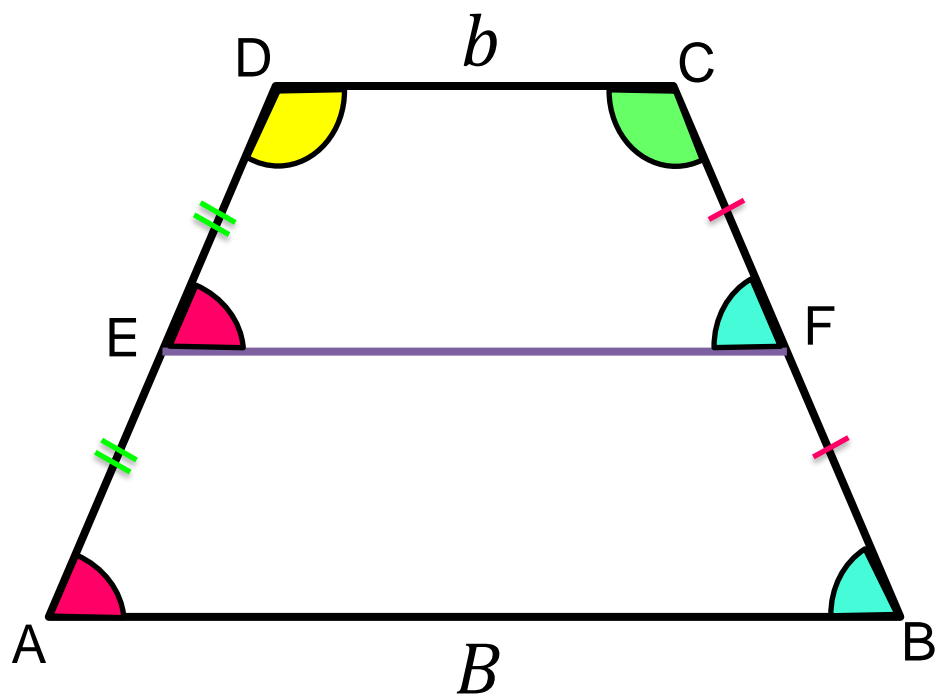
$$\begin{aligned} \overline{AC} &= \overline{BC} \\ \overline{AE} &= \overline{DE} \\ \frac{2m}{m} &= \frac{3x - 7}{x} \end{aligned}$$

$$2x = 3x - 7$$

$$\boxed{x = 7}$$

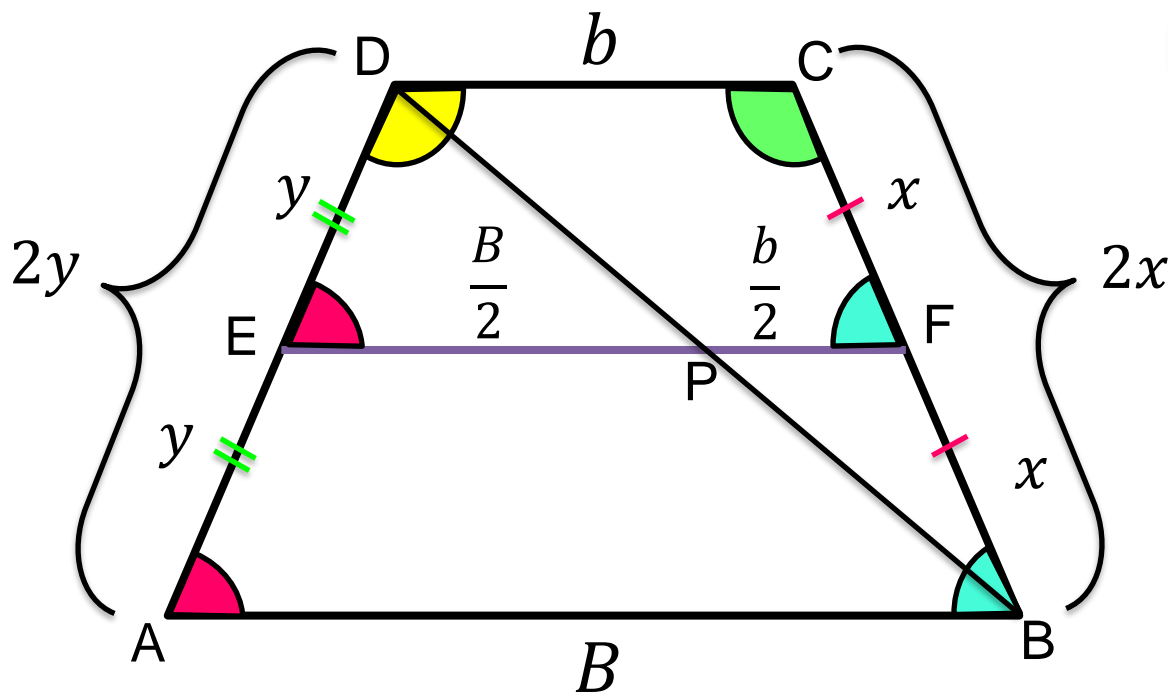
Base média

Base média de Trapézio:



Base média

Base média de Trapézio:

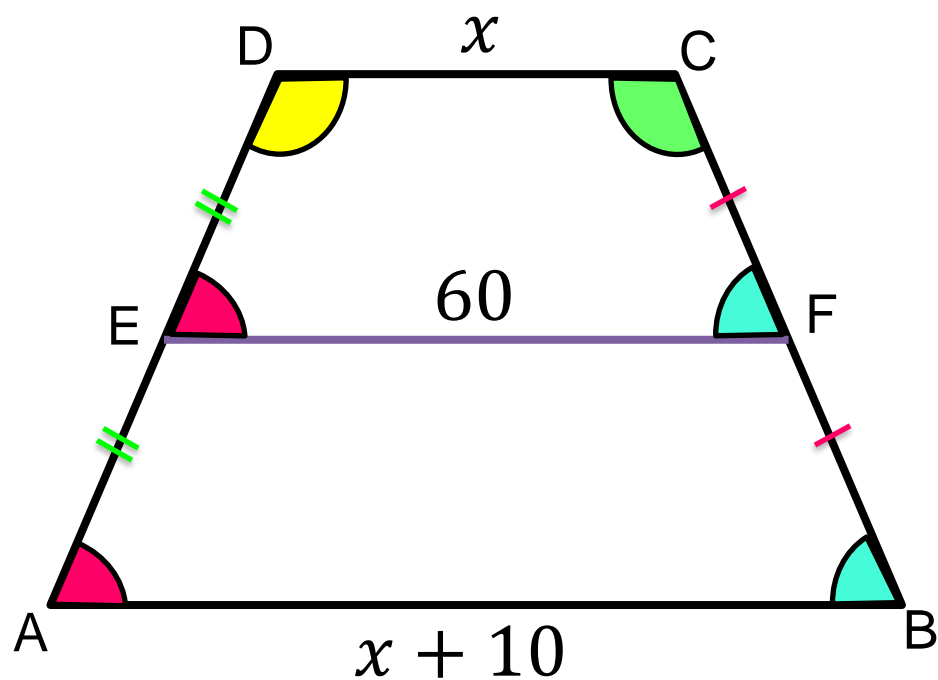


$$\overline{EF} = \frac{B + b}{2}$$

$$\begin{aligned} \overline{DC} &= \overline{BC} \\ \overline{PF} &= \overline{BF} \\ b &= 2x \\ \overline{PF} &= \frac{2x}{2} \\ 2\overline{PF} &= b \\ \overline{PF} &= \frac{b}{2} \end{aligned}$$
$$\begin{aligned} \overline{AB} &= \overline{AD} \\ \overline{EP} &= \overline{ED} \\ B &= 2y \\ \overline{EP} &= \frac{2y}{2} \\ 2\overline{EP} &= B \\ \overline{EP} &= \frac{B}{2} \end{aligned}$$

Base média

Exemplo: Em um trapézio ABCD, a base média mede 60 cm e a medida da base maior excede a medida da base menor em 10 cm. A medida da base menor do trapézio é:



$$\overline{EF} = \frac{B + b}{2}$$

$$\Rightarrow 60 = \frac{x + 10 + x}{2}$$

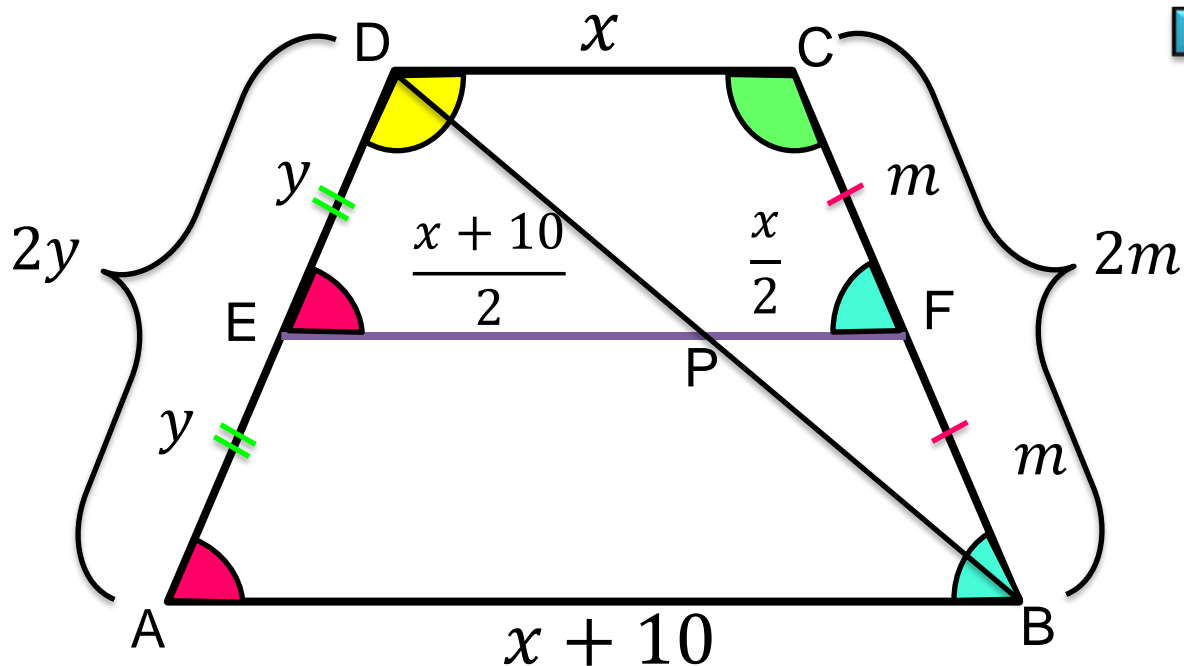
$$120 = 2x + 10$$

$$110 = 2x$$

$$x = 55$$

Base média

Segunda Opção: $\overline{EF} = 60$



$$\Rightarrow \frac{x}{PF} = \frac{2m}{m} \Rightarrow \frac{x+10}{EP} = \frac{2y}{y}$$

$$2PF = x$$

$$\boxed{PF = \frac{x}{2}}$$

$$2EP = x + 10$$

$$\boxed{EP = \frac{x + 10}{2}}$$

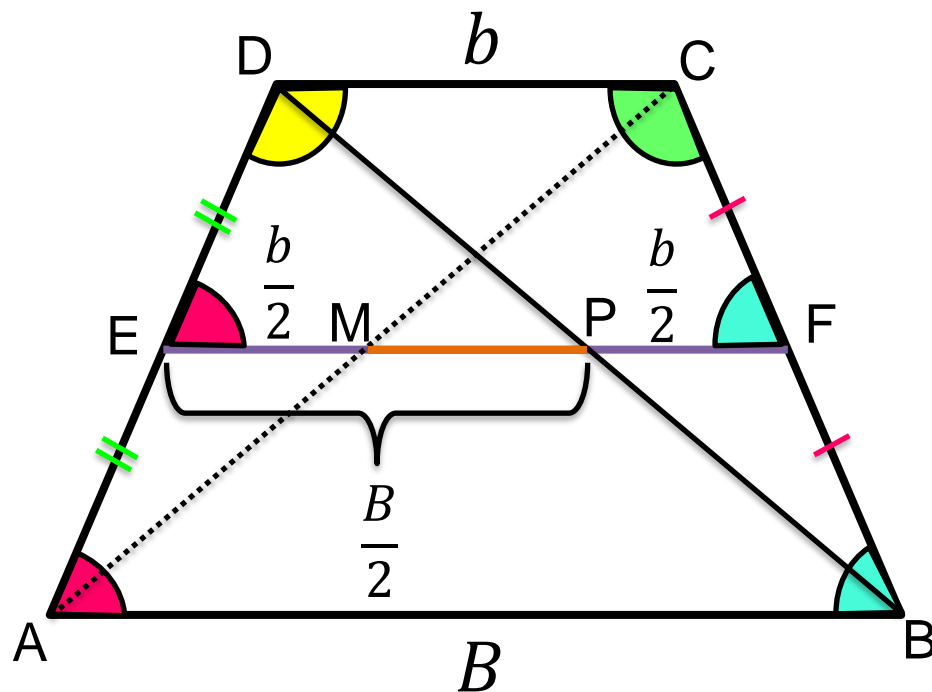
$$\Rightarrow 60 = \frac{x + 10 + x}{2}$$

$$120 = 2x + 10$$

$$110 = 2x \quad \boxed{x = 55}$$

Base média

Mediana de Euler:



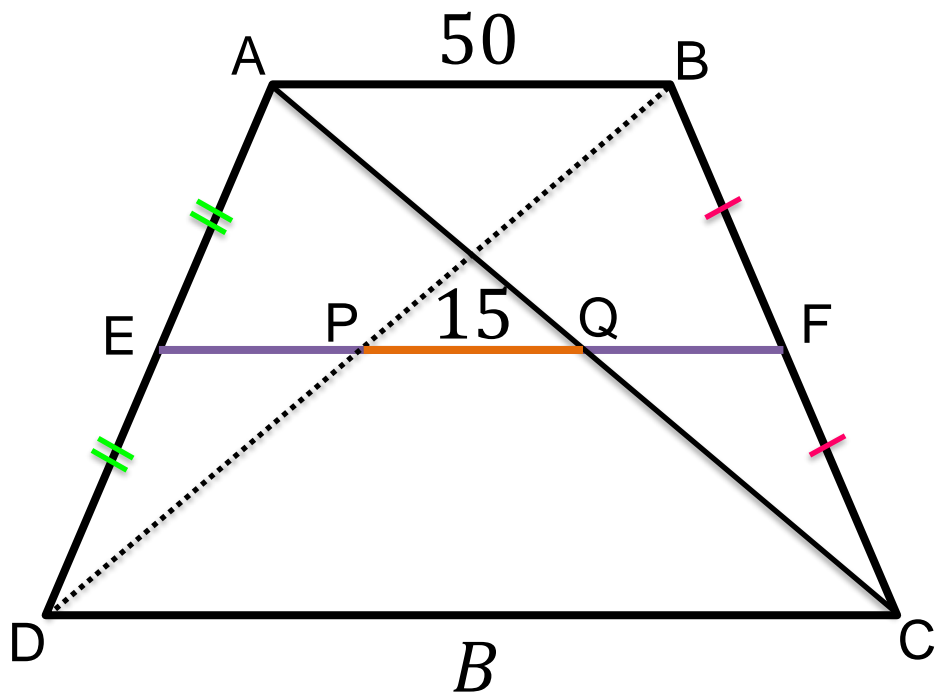
$$\Rightarrow \overline{MP} = \frac{B}{2} - \frac{b}{2}$$

$$\boxed{\overline{MP} = \frac{B - b}{2}}$$

$$\boxed{\overline{EF} = \frac{B + b}{2}}$$

Base média

Exemplo: Na figura a seguir, “marcas iguais” indicam segmentos congruentes. Sendo $PQ = 15$ cm, determine a medida EF



$$\overline{EF} = \frac{B + b}{2}$$

$$\Rightarrow \overline{PQ} = \frac{B - b}{2}$$

$$15 = \frac{B - 50}{2}$$

$$30 = B - 50$$

$$B = 80$$

$$\Rightarrow \overline{EF} = \frac{B + b}{2}$$

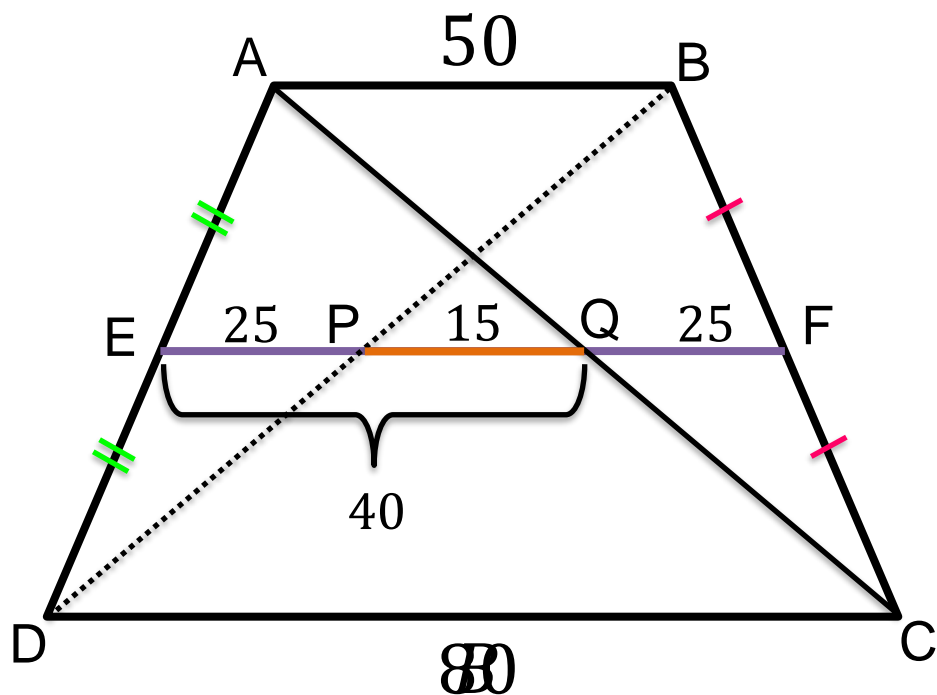
$$\overline{EF} = \frac{80 + 50}{2}$$

$$\overline{EF} = \frac{130}{2}$$

$$\overline{EF} = 65$$

Base média

Segunda Opção:



$$\overline{EF} = 65$$

$$\overline{EF} = \frac{B + b}{2}$$

Obrigado

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