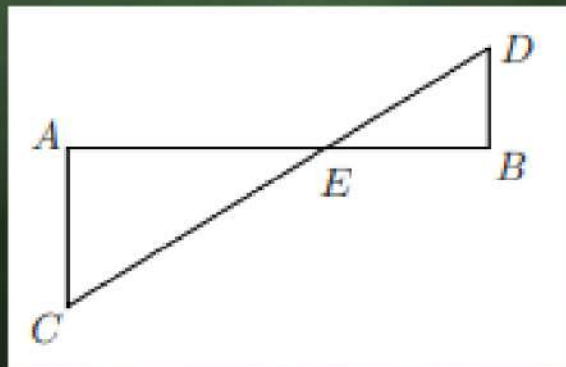


Semelhança de triângulos

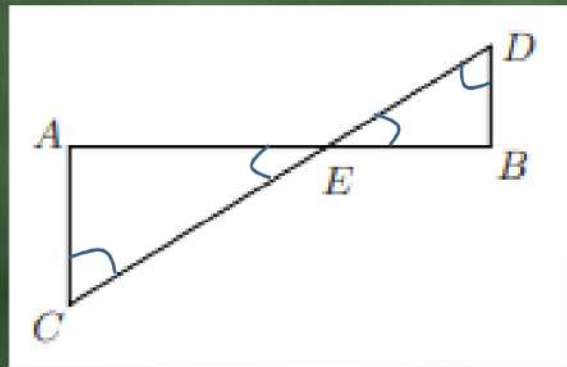
Prof. Marcos Wesley

Exercício

Na figura, $AC \parallel BD$, e os pontos C , D e E são colineares. Sabendo que $\overline{AE} = 14$ cm, $\overline{AC} = 18$ cm e $\overline{BE} = 10$ cm, calcule a medida do lado \overline{BD} .



Exercício

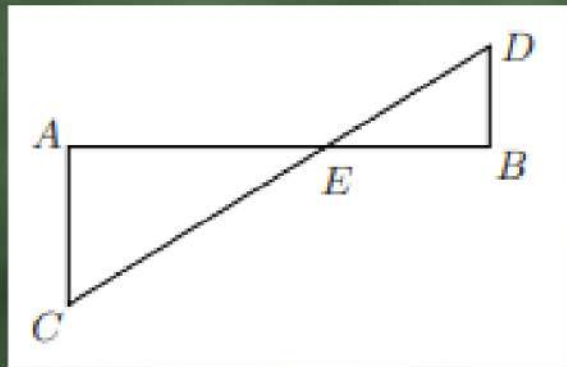


$$\Delta AEC \sim \Delta BED$$

$$\widehat{AEC} \equiv \widehat{BED} \text{ (opostos pelo vértice)}$$

$$\widehat{ECA} \equiv \widehat{EDB} \text{ (alternos internos)}$$

Exercício



$$\overline{BE} = 10 \text{ cm}$$

$$\overline{AE} = 14 \text{ cm}$$

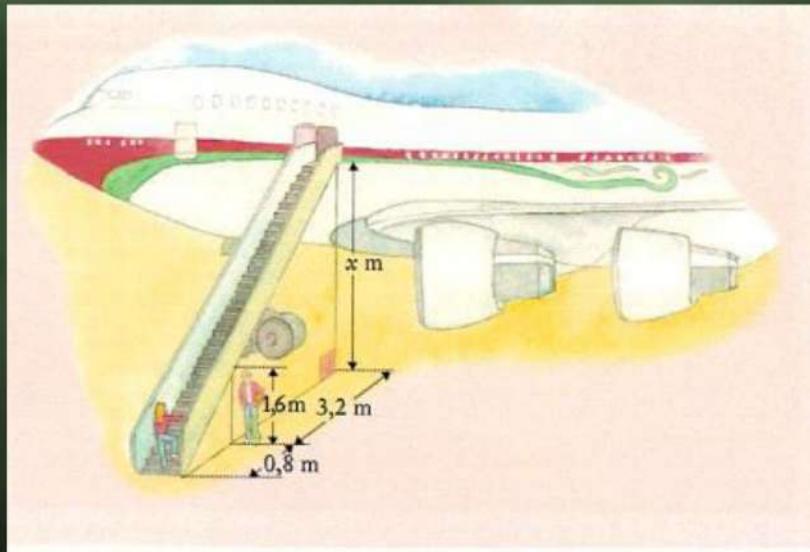
$$\overline{AC} = 18 \text{ cm}$$

$$\frac{\overline{BD}}{\overline{AC}} = \frac{\overline{BE}}{\overline{AE}} \quad \longrightarrow \quad \frac{\overline{BD}}{18} = \frac{10}{14} \quad \longrightarrow \quad \overline{BD} = \frac{10}{14} \times 18$$

$$\boxed{\overline{BD} = \frac{90}{7}}$$

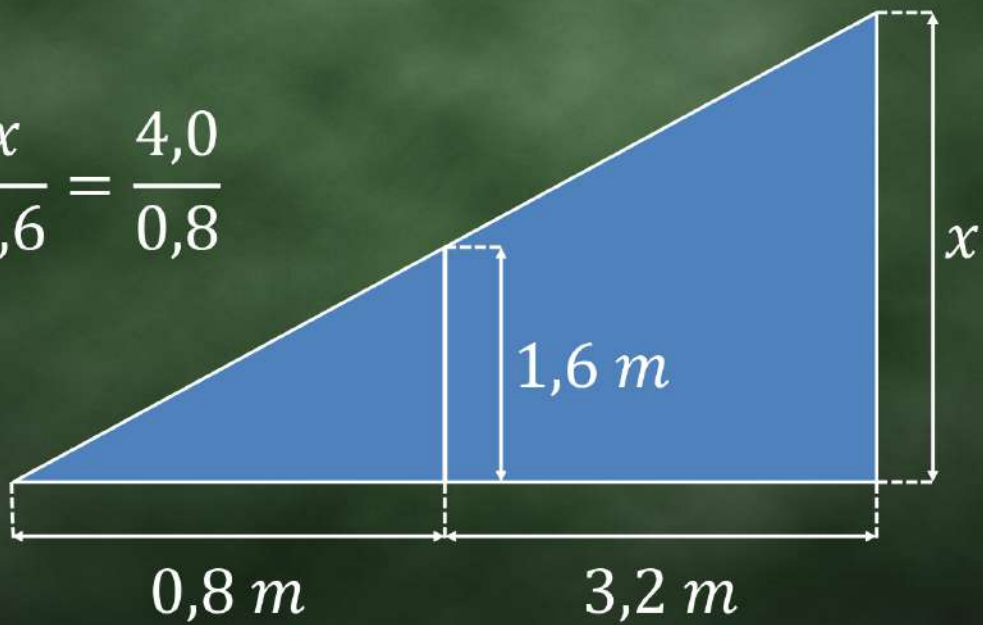
Exercício

Encontre o valor de x .



Exercício

$$\frac{x}{1,6} = \frac{4,0}{0,8}$$



Exercício

$$\frac{x}{1,6} = \frac{4,0 \div 4}{0,8 \div 4} \quad \longrightarrow \quad \frac{x}{1,6} = \frac{1,0}{0,2}$$

$$\frac{x}{1,6} = 5 \quad \longrightarrow \quad x = 5 \times 1,6$$

$$\boxed{x = 8 \text{ m}}$$

Exercício

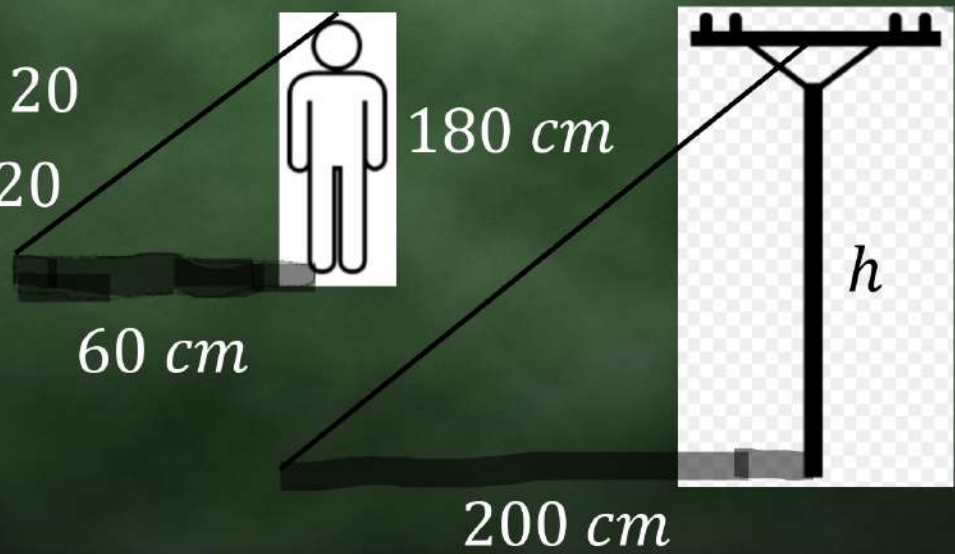
A sombra de uma pessoa que tem 1,80 m de altura mede 60 cm. No momento, a seu lado, a sombra projetada de um poste mede 2 m. Se, mais tarde, a sombra do poste diminui 50 cm, a sombra da pessoa passou a medir:

Exercício

Situação 1

$$\frac{h}{180} = \frac{200 \div 20}{60 \div 20}$$

$$\frac{h}{180} = \frac{10}{3}$$



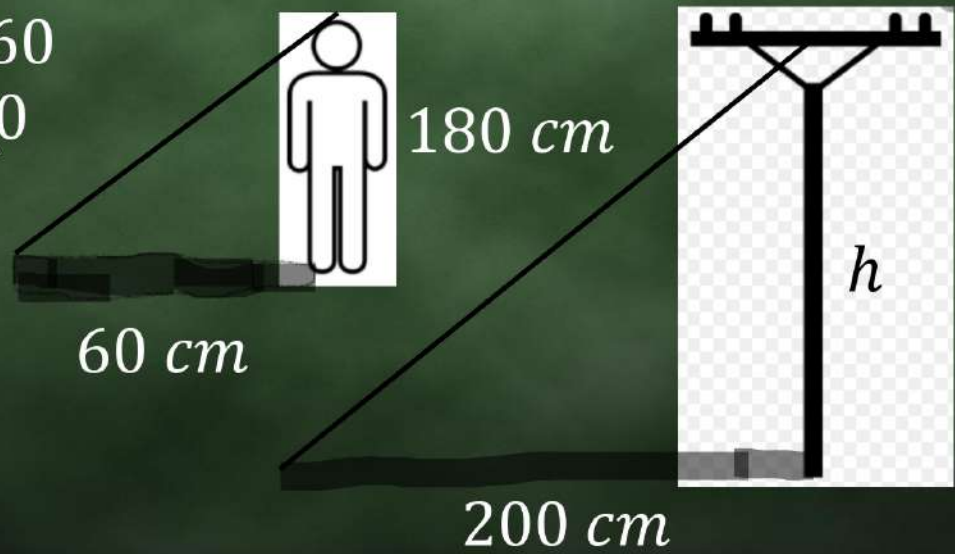
Exercício

Situação 1

$$h = \frac{10}{3} \times 180$$

$$h = 10 \times 60$$

$$h = 600 \text{ cm}$$

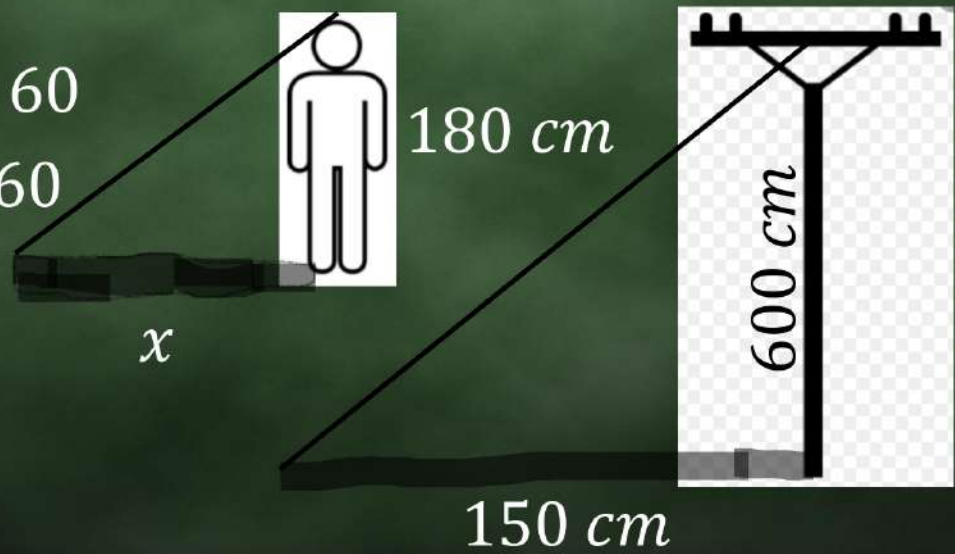


Exercício

Situação 2

$$\frac{x}{150} = \frac{180 \div 60}{600 \div 60}$$

$$\frac{x}{150} = \frac{3}{10}$$



Exercício

Situação 2

$$\frac{x}{150} = \frac{3}{10}$$

$$x = \frac{3}{10} \times 150$$

$$h = 45 \text{ cm}$$

