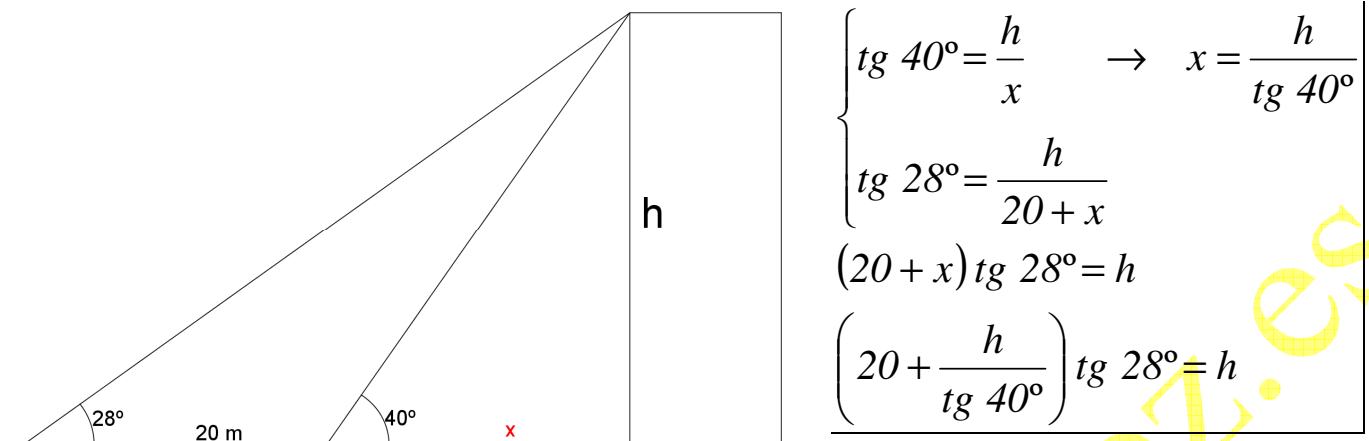


Pág. 160,
33)



$$\begin{cases} \operatorname{tg} 40^\circ = \frac{h}{x} & \rightarrow x = \frac{h}{\operatorname{tg} 40^\circ} \\ \operatorname{tg} 28^\circ = \frac{h}{20+x} \\ (20+x) \operatorname{tg} 28^\circ = h \\ \left(20 + \frac{h}{\operatorname{tg} 40^\circ}\right) \operatorname{tg} 28^\circ = h \end{cases}$$

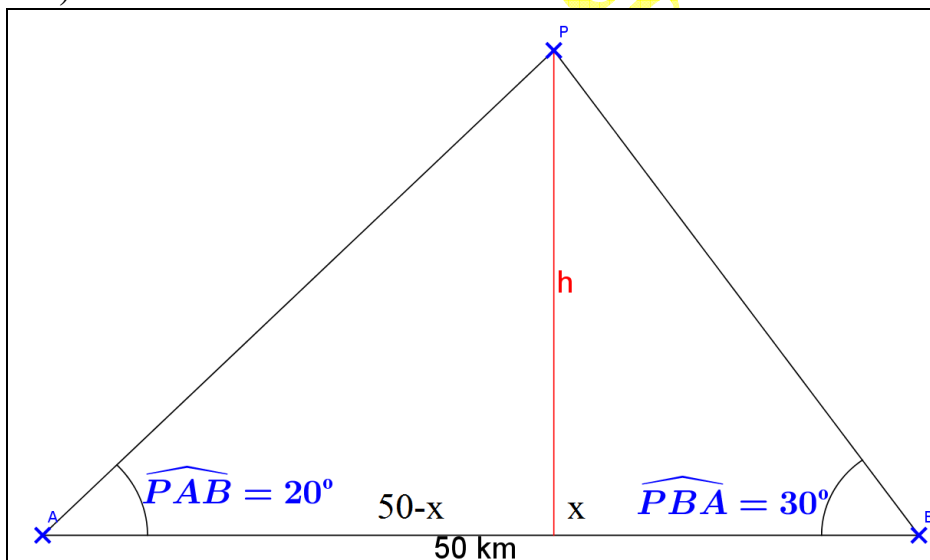
$$\left(20 + \frac{h}{\operatorname{tg} 40^\circ}\right) \operatorname{tg} 28^\circ = h \rightarrow 20 \cdot \operatorname{tg} 28^\circ + \frac{h}{\operatorname{tg} 40^\circ} \operatorname{tg} 28^\circ = h$$

$$20 \cdot \operatorname{tg} 28^\circ + \frac{\operatorname{tg} 28^\circ}{\operatorname{tg} 40^\circ} h = h; \quad 20 \cdot \operatorname{tg} 28^\circ = h - \frac{\operatorname{tg} 28^\circ}{\operatorname{tg} 40^\circ} h; \quad 20 \cdot \operatorname{tg} 28^\circ = h \left(1 - \frac{\operatorname{tg} 28^\circ}{\operatorname{tg} 40^\circ}\right)$$

$$h = \frac{20 \cdot \operatorname{tg} 28^\circ}{\left(1 - \frac{\operatorname{tg} 28^\circ}{\operatorname{tg} 40^\circ}\right)} = 29'0287 \text{ m}$$

La altura del edificio es de 29'0287 m.

35)



$$\begin{cases} \operatorname{tg} 20^\circ = \frac{h}{50-x} \\ \operatorname{tg} 30^\circ = \frac{h}{x} & \rightarrow h = x \operatorname{tg} 30^\circ \end{cases}$$

$$\operatorname{tg} 20^\circ = \frac{x \operatorname{tg} 30^\circ}{50-x}$$

$$(50-x) \operatorname{tg} 20^\circ = x \operatorname{tg} 30^\circ$$

$$50 \cdot \operatorname{tg} 20^\circ - x \operatorname{tg} 20^\circ = x \operatorname{tg} 30^\circ$$

$$50 \cdot \operatorname{tg} 20^\circ = x \operatorname{tg} 30^\circ + x \operatorname{tg} 20^\circ$$

$$50 \cdot \operatorname{tg} 20^\circ = (\operatorname{tg} 30^\circ + \operatorname{tg} 20^\circ) x$$

$$x = \frac{50 \cdot \operatorname{tg} 20^\circ}{\operatorname{tg} 30^\circ + \operatorname{tg} 20^\circ} = 19'33296$$

$$h = 19'33296 \cdot \operatorname{tg} 30^\circ = 11'1619 \text{ km}$$

El avión está a una altura de 11'6119 km.

Pág. 163,

1)

a) $\cos \alpha = 0'52$ y α es agudo.

$$\alpha = \arccos(0'52) = 58'6677$$

$$\operatorname{sen} \alpha = 0'8542$$

$$\operatorname{tg} \alpha = 1'6426$$

1b y 2

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