

Evaluación

1.

P = Punto donde se eleva el helicóptero

A = Elevación de 30°

B = Elevación de 45°

h = Altura del helicóptero

$$\alpha = 180^\circ - 30^\circ - 90^\circ$$

$$\alpha = 60^\circ$$

$$\beta = 180^\circ - 45^\circ - 90^\circ$$

$$\beta = 45^\circ$$

$$x / \text{sen}(60^\circ) = h / \text{sen}(30^\circ)$$

$$x = h \cdot \text{sen}(60^\circ) / \text{sen}(30^\circ)$$

$$x = 1,73h \quad (1)$$

$$(200 - x) / \text{sen}(45^\circ) = h / \text{sen}(45^\circ)$$

$$200 - x = h \cdot \text{sen}(45^\circ) / \text{sen}(45^\circ)$$

$$x = 200 - h \quad (2)$$

igualando (1) y (2)

$$200 - h = 1,73h$$

$$200 = 1,73h + h$$

$$200 = 2,73h$$

$$h = (200) / (2,73)$$

$$h = 73,26$$

2.

$$\frac{a}{\sin(A)} = \frac{p}{\sin(P)}$$

$$a = \frac{p \cdot \sin(A)}{\sin(P)} = \frac{8 \cdot 0.89}{0.26} = \frac{7.12}{0.26} = 27.38$$

3.

$$c^2 = 5^2 + 10^2 - 2(5)(10) \cdot \cos 120^\circ$$

$$c^2 = 25 + 100 - 100 \cdot -0.5$$

$$c^2 = 125 - = 50$$

$$c^2 = 175$$

$$c = \sqrt{175} \quad c = 13.22$$

4.

$$b^2 = 6^2 + 9^2 - 2 \cdot 6 \cdot 9 \cdot -0.5$$

$$b = \sqrt{36 + 81 + 54}$$

$$b = 13.08 \text{ km}$$

5.

$$\frac{a}{\sin(\alpha)} = \frac{b}{\sin(\beta)} = \frac{c}{\sin(\gamma)}$$

$$\frac{10 \text{ m}}{\sin(90^\circ)} = \frac{b}{\sin(70^\circ)}$$

$$b = \frac{10 \cdot \sin 70}{\sin(90)}$$

$$b = 9.39$$