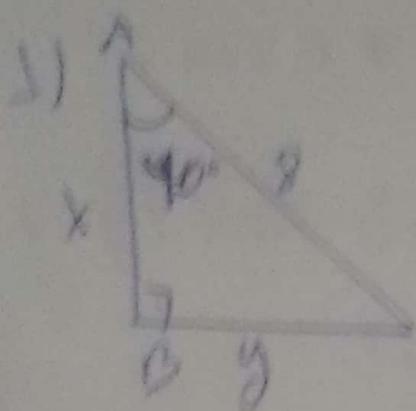


23 Ma 4



$$\cos 40^\circ \approx 0,643$$

$$\sin 40^\circ \approx 0,766$$

$\cos 40^\circ$

$$\frac{6}{h}$$



$$y = 8 \cdot 0,643 = 5,144$$

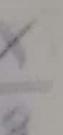
$x = 6,123$ (maior devido a redonda)

$$(6,123)$$

$$y = 8 \cdot 0,643 = 5,144$$

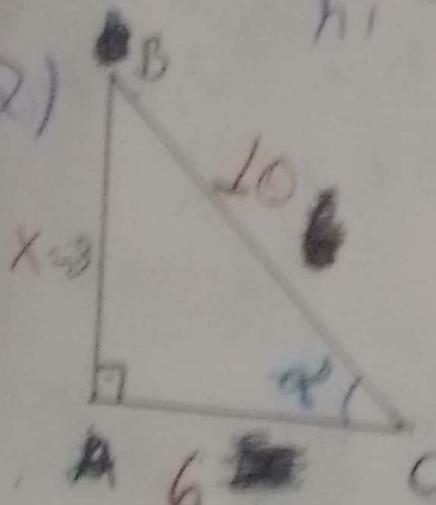
$\cos 40^\circ$

$$\frac{6}{h}$$



$$x = 8 \cdot 0,766 = 6,128$$

2)



$$\cos 40^\circ = \frac{CA}{h}$$

$$\frac{6}{10} = \frac{6}{h} = \frac{3}{5} \cdot 10 = 6$$

$$8 + 10 + 6$$

$$P = 24$$

Perimetro

$$h^2 = u^2 + v^2$$

$$10^2 = 6^2 + x^2$$

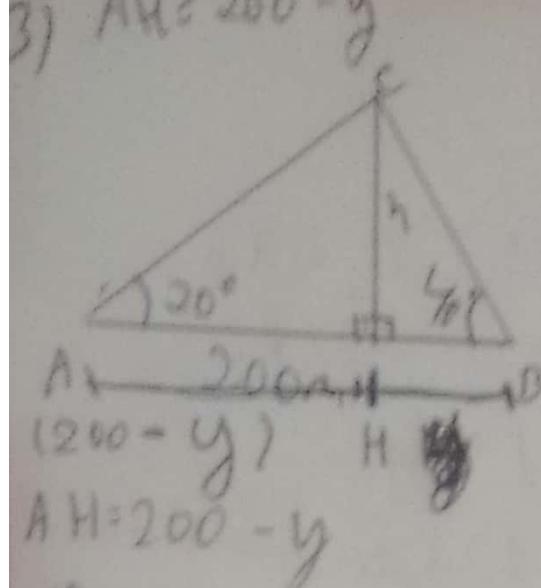
$$100 = 36 + x^2$$

$$100 - 36 = x^2$$

$$64 = x^2$$

$$x = \sqrt{64}$$

$$(x = 8)$$



$$AH = 200 - y$$

$$BH = y$$

calculo de y

$$0,839y = 72,8 - 0,364y$$

$$1,203y \quad y = 72,8$$

$$y = 60,515$$

Angulo de 20°

$$\operatorname{tg} 20^\circ \cdot \frac{h}{200-y} = 0,364 =$$

$$\frac{h}{200-y} = 72,8 - 0,364y = h$$

Angulo de 40°

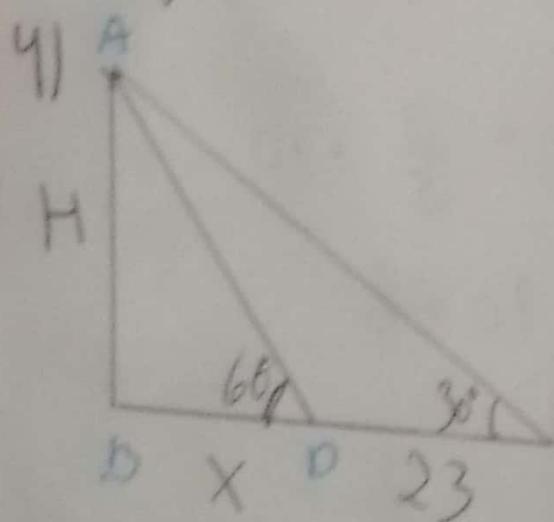
$$\operatorname{tg} 40^\circ = \frac{h}{y} = 0,839 = \frac{h}{y} \quad 0,839y = h$$

calculo de h

$$h = 72,8 - 0,364 \cdot 60,515$$

$$72,8 - 22,02746$$

$$h \approx 50,77 \text{ m}$$



\triangle triângulo ABD

$$\operatorname{tg} 60^\circ = \frac{H}{x}$$

$$\sqrt{3} = \frac{H}{x}$$

$$x\sqrt{3} = H$$

Solução

$$H = \frac{23\sqrt{3}}{2} \text{ m}$$

\triangle triângulo ABC

$$\operatorname{tg} 30^\circ = H/(23+x)$$

$$\frac{\sqrt{3}}{3} \times \frac{H}{(23+x)}$$

$$\sqrt{3} \cdot (23+x) = 3 \cdot H$$

$$23\sqrt{3} + x\sqrt{3} = 3H$$

$$23\sqrt{3} + H = 3H$$

$$23\sqrt{3} = 3H - H$$

$$2H = 23\sqrt{3}$$

$$\cos = \frac{1}{2}$$

$$\text{cosec} = \sqrt{7}$$

"tg"

$$\operatorname{tg} x = -\frac{3\sqrt{7}}{7}$$

X é um arco da 2 quadrante. As longas são negativas

6)

$$\operatorname{sen}(x) = \frac{\pm}{2}$$

$$\cos(x) = -\frac{\sqrt{3}}{2}$$

$$\operatorname{ctg}(x) = \frac{1}{\operatorname{tg}(x)} = \frac{1}{-\frac{\sqrt{3}}{2}} = \frac{-2}{\sqrt{3}}$$

$$\frac{\cos(x)}{\operatorname{sen}(x)}$$

$$-\frac{\sqrt{3}}{2} = -\frac{\sqrt{3}}{2} \cdot \frac{-2}{-2}$$

13

7)

~~$x = \frac{2\pi}{3}$~~

~~$\cos = -\frac{1}{2}$~~

$$\operatorname{sec} = \frac{1}{\cos(x)} = \frac{1}{-\frac{1}{2}} = -2$$

-2 Longo no 2 quadrante

8)

$$\operatorname{cosec} = \frac{1}{\operatorname{sen}(x)}$$

$$\operatorname{sen}(x) = \frac{\sqrt{6}}{3}$$

$$\operatorname{sen}(x) = \frac{2}{\sqrt{6}}$$

$$\operatorname{sen}(x) = \frac{2\sqrt{6}}{6}$$

3) Sistemas fundamentais

$$\sin^2 x + \cos^2 x = 1$$

$$\{\cos^2 x = 1 - \sin^2 x\}$$

Correção

$$\cos^2 x = 1 - \left(\frac{3}{5}\right)^2$$

$$\cos^2 x = 1 - \frac{9}{25}$$

$$\cos^2 x = \frac{16}{25}$$

$$\cos x = \sqrt{\frac{16}{25}} = \frac{4}{5}$$

tangente

$$\operatorname{tg} x = \frac{\operatorname{sen} x}{\cos x}$$

$$\operatorname{tg} x = \frac{\frac{3}{5}}{\frac{4}{5}} = \frac{3}{4}$$

10

$$\cos x = \frac{1}{2} \Rightarrow x = 60^\circ$$

$$y = \frac{\operatorname{cotg} 60^\circ - 1}{\operatorname{sen} 60^\circ - \operatorname{tg} 60^\circ} = \frac{\frac{1}{\operatorname{tg} 60^\circ} - 1}{\operatorname{sen} 60^\circ - \operatorname{tg} 60^\circ} = \frac{\frac{1}{\sqrt{3}} - 1}{\frac{\sqrt{3}}{2} - \sqrt{3}}$$

$$y = \frac{\frac{1}{\sqrt{3}-1}}{-\frac{\sqrt{3}}{2}} = \frac{1}{\sqrt{3}+2} \quad y = \frac{3}{\sqrt{3}} \quad (y = \sqrt{3})$$

11)

$$2 + g^2 x + 2g e^x x$$

$$2 (\sin x / \cos x)^2 + 1 / (\cos^2 x)$$

$$2 \left(\frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} \right)^2 + \frac{1}{\left(\frac{\sqrt{3}}{2} \right)^2}$$

$$2 \left(\frac{\frac{1}{2}}{\frac{3}{3}} \right)^2 + \frac{1}{\frac{3}{4}}$$

$$2 \left(\frac{1}{3} \right) + \frac{4}{3}$$

$$\frac{2}{3} + \frac{4}{3} = \frac{6}{3} = 2$$

22)

$$\cos(x) + (\cos(\pi) + \sin(\pi - 1)) = 1 \cdot \cos(x) \\ \sin(x), 0) = \sin(x) = -2 \sin(x)$$

$$23) \frac{\sec(4\pi - x) \tan(\frac{\pi}{2} + x) \sin(\pi - x)}{\sec(5\pi - x) \tan(\pi + x) \cot(\pi)}$$

$$\frac{1}{\cos(x)} \cdot \left(-\frac{\cos(x)}{\sin(x)} \right) \times (-1)$$

$$\frac{1}{\sin(x)} \cdot \cot(g(x))$$

$$\frac{1}{\sin(x)}$$

$$\frac{1}{\sin(x) \cdot \cot(g(x))} = \frac{1}{\cot(g(x))}$$