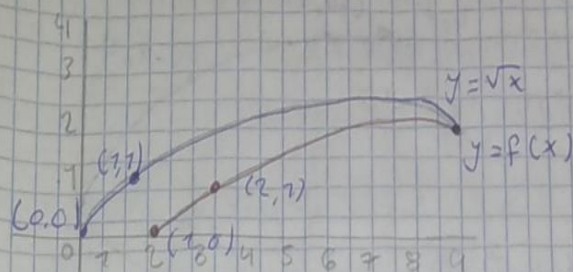


d) $f(x) = \sqrt{x-1}$

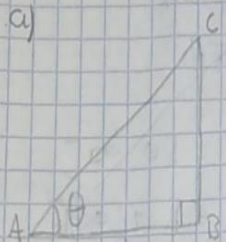


$DF = [1, \infty[$

$RF = [0, \infty[$

1.1
pagina 124

a)



• Cateto opuesto: BC

• Cateto adyacente: AB

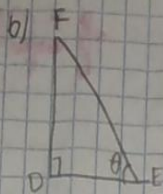
• Hipotenusa: AC

$$\text{Sen } \theta = \frac{BC}{AC}$$

$$\text{cos } \theta = \frac{AB}{AC}$$

$$\text{tan } \theta = \frac{BC}{AB}$$

1-F44



- Cateto opuesto: FD
- Cateto adyacente: DE
- Hipotenusa: FE

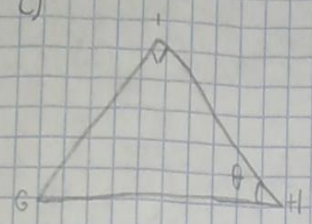
7-F44

$$\text{Sen } \theta = \frac{FD}{FE}$$

$$\text{Cos } \theta = \frac{DE}{FE}$$

$$\text{tan } \theta = \frac{FD}{DE}$$

c)



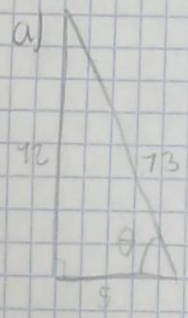
- Cateto opuesto: GI
- Cateto adyacente: IH
- Hipotenusa: GH

$$\text{Sen } \theta = \frac{GI}{GH}$$

$$\text{Cos } \theta = \frac{IH}{GH}$$

$$\text{tan } \theta = \frac{GI}{IH}$$

1.2



$$\text{Sen } \theta = \frac{12}{13}$$

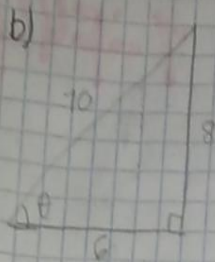
$$\text{csc } \theta = \frac{13}{12}$$

$$\text{Cos } \theta = \frac{5}{13}$$

$$\text{sec } \theta = \frac{13}{5}$$

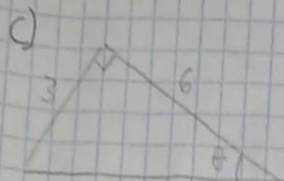
$$\text{tan } \theta = \frac{12}{5}$$

$$\text{cot } \theta = \frac{5}{12}$$

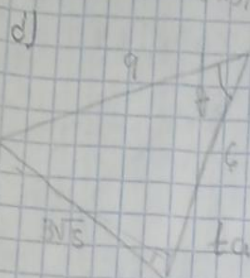


$$\begin{aligned}\sin \theta &= \frac{8}{10} = \frac{4}{5} & \csc \theta &= \frac{10}{8} = \frac{5}{4} \\ \cos \theta &= \frac{6}{10} = \frac{3}{5} & \sec \theta &= \frac{10}{6} = \frac{5}{3} \\ \tan \theta &= \frac{8}{6} = \frac{4}{3} & \cot \theta &= \frac{6}{8} = \frac{3}{4}\end{aligned}$$

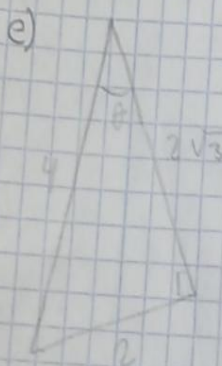
1-4-4



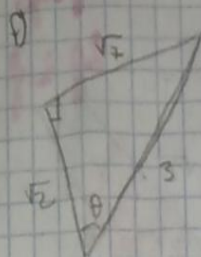
$$\begin{aligned}\sin \theta &= \frac{3}{6} = \frac{1}{2} & \csc \theta &= \frac{6}{3} = 2 \\ \cos \theta &= \frac{3\sqrt{5}}{6} = \frac{\sqrt{5}}{2} & \sec \theta &= \frac{6}{3\sqrt{5}} = \frac{2}{\sqrt{5}} \\ \tan \theta &= \frac{3}{3\sqrt{5}} = \frac{1}{\sqrt{5}} & \cot \theta &= \frac{3\sqrt{5}}{3} = \sqrt{5}\end{aligned}$$



$$\begin{aligned}\sin \theta &= \frac{3\sqrt{5}}{9} = \frac{\sqrt{5}}{3} & \csc \theta &= \frac{9}{3\sqrt{5}} = \frac{3}{\sqrt{5}} \\ \cos \theta &= \frac{6}{9} = \frac{2}{3} & \sec \theta &= \frac{9}{6} = \frac{3}{2} \\ \tan \theta &= \frac{3\sqrt{5}}{6} = \frac{\sqrt{5}}{2} & \cot \theta &= \frac{6}{3\sqrt{5}} = \frac{2}{\sqrt{5}}\end{aligned}$$



$$\begin{aligned}\sin \theta &= \frac{2}{4} = \frac{1}{2} & \csc \theta &= \frac{4}{2} = 2 \\ \cos \theta &= \frac{2\sqrt{3}}{4} = \frac{\sqrt{3}}{2} & \sec \theta &= \frac{4}{2\sqrt{3}} = \frac{2}{\sqrt{3}} \\ \tan \theta &= \frac{2}{2\sqrt{3}} = \frac{1}{\sqrt{3}} & \cot \theta &= \frac{2\sqrt{3}}{2} = \sqrt{3}\end{aligned}$$



$$\sin \theta = \frac{\sqrt{2}}{3}$$

$$\cos \theta = \frac{\sqrt{2}}{3}$$

$$\tan \theta = \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\frac{\sqrt{2}}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\csc \theta = \frac{3}{\sqrt{2}}$$

$$\sec \theta = \frac{3}{\sqrt{2}}$$

$$\cot \theta = \frac{\sqrt{2}}{\sqrt{2}} = \frac{2}{\sqrt{2}}$$

$$3. \frac{1}{\sin \theta} = 1 \div \frac{\text{co}}{\text{hip}} = \frac{\text{hip}}{\text{co}} = \csc \theta^\circ$$

$$4. \frac{1}{\cos \theta} = 1 \div \frac{\text{CA}}{\text{hip}} = \frac{\text{hip}}{\text{CA}} = \sec \theta^\circ$$

$$5. \frac{1}{\tan \theta} = 1 \div \frac{\text{co}}{\text{CA}} = \frac{\text{CA}}{\text{co}} = \cot \theta^\circ$$

6. $\triangle ABC$

$$\bullet \sin \theta = \frac{AB}{1} = AB \Rightarrow AB = \sin \theta$$

$$\bullet \cos \theta = \frac{AC}{1} = AC \Rightarrow AC = \cos \theta$$

• $\triangle ABD$

$$\bullet \cos \theta = \frac{AD}{AB} = \frac{AD}{\sin \theta} \Rightarrow AD = \cos \theta \times \sin \theta$$

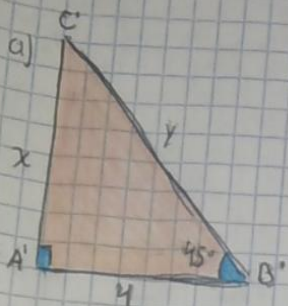
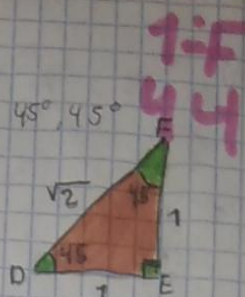
$$\bullet \sin \theta = \frac{BD}{\sin \theta} \rightarrow BD = \sin^2 \theta$$

$$\bullet CD = BC - BD = 1 - \sin^2 \theta \rightarrow CD = 1 - \sin^2 \theta$$



1.3

Pagina: 128



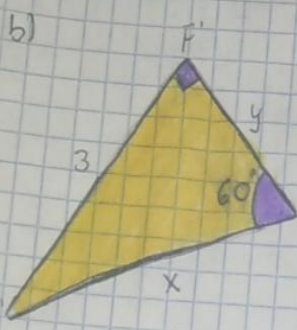
$$\frac{x}{1} = \frac{4}{1}$$

$$x = 4(1)$$

$$x = 4$$

$$\frac{y}{1} = \frac{4}{1}$$

$$y = 4\sqrt{2}$$



$$\frac{x}{1} = \frac{3}{\sqrt{3}}$$

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

$$x = 3$$

$$\frac{y}{1} = \frac{3}{\sqrt{3}}$$

$$y = \frac{3\sqrt{3}}{\sqrt{3}}$$

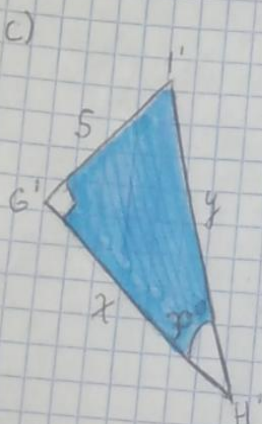
$$y = 3$$

$$\frac{6}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{6 \times \sqrt{3}}{\sqrt{9}}$$

$$\frac{6\sqrt{3}}{3}$$

$$\frac{3}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{3 \times \sqrt{3}}{\sqrt{9}}$$

$$\frac{3\sqrt{3}}{3}$$



$$\frac{x}{1} = \frac{5}{\sqrt{3}}$$

$$x = \frac{5\sqrt{3}}{\sqrt{3}}$$

$$x = 5$$

$$\frac{y}{1} = \frac{5}{\sqrt{3}}$$

$$y = \frac{5\sqrt{3}}{\sqrt{3}}$$

$$y = 5$$

$$5 \times \sqrt{3}$$

$$\frac{5}{1}$$

$$y = 5(2)$$

$$y = 10$$

d)



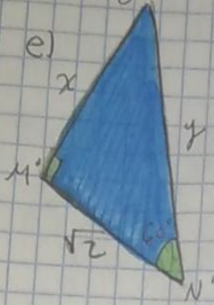
$$\frac{x}{1} = \frac{1}{2} \quad \frac{y}{\sqrt{3}} = \frac{1}{2}$$

$$x = \frac{2}{1} \quad y = \frac{\sqrt{3}}{2}$$

1:F44

$$1 \times \sqrt{3}$$

e)



$$\frac{x}{\sqrt{3}} = \frac{\sqrt{2}}{1}$$

$$\sqrt{2} \times \sqrt{3}$$

$$x = \frac{\sqrt{2}}{\sqrt{3}}$$

$$x = \sqrt{6}$$

$$\frac{y}{2} = \frac{\sqrt{2}}{1}$$

$$\frac{\sqrt{6}}{2}$$

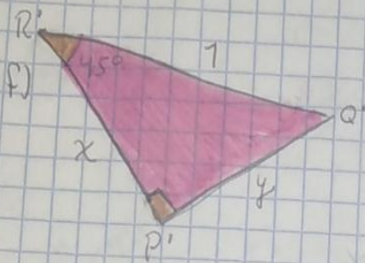
$$\frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2 \times \sqrt{2}}{\sqrt{4}}$$

$$y = \frac{2}{\sqrt{2}}$$

$$2 \times \sqrt{2}$$

$$\frac{2\sqrt{2}}{2}$$

$$y = 2\sqrt{2}$$



$$\frac{x}{1} = \frac{1}{\sqrt{2}}$$

$$\frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{1 \times \sqrt{2}}{\sqrt{4}}$$

$$x = \frac{1}{\sqrt{2}}$$

$$\frac{\sqrt{2}}{2}$$

$$x = \frac{\sqrt{2}}{2}$$

$$\frac{y}{1} = \frac{1}{\sqrt{2}}$$

$$y = \frac{1}{\sqrt{2}}$$

$$y = \frac{\sqrt{2}}{2}$$

$$\frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{1 \times \sqrt{2}}{\sqrt{4}}$$

$$\frac{\sqrt{2}}{2}$$

1.4

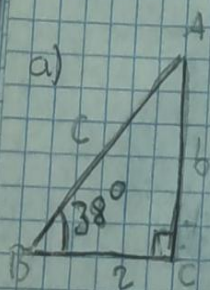
1=F44

Página: 129

- $\csc 30^\circ = 2$
- $\sec 30^\circ = \frac{2}{\sqrt{3}} = \frac{2}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$
- $\cot 30^\circ = \frac{3}{\sqrt{3}} = \frac{3}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{3\sqrt{3}}{3} = \sqrt{3}$
- $\csc 45^\circ = \frac{2}{\sqrt{2}} = \frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$
- $\sec 45^\circ = \frac{2}{\sqrt{2}} = \frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$
- $\tan 45^\circ = 1$
- $\csc 60^\circ = \frac{2}{\sqrt{3}} = \frac{2}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$
- $\sec 60^\circ = 2$
- $\cot 60^\circ = \frac{1}{\sqrt{3}}$

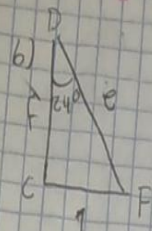
1.5

Página: 130



$$\begin{aligned} \tan 38^\circ &= \frac{b}{2} & \cos 38^\circ &= \frac{2}{c} \\ b &= 2 \tan 38^\circ & c &= \frac{2}{\cos 38^\circ} \\ b &= 1.6 & c &= 2.5 \end{aligned}$$

1-F44



$$\bullet \tan 24^\circ = \frac{1}{1}$$

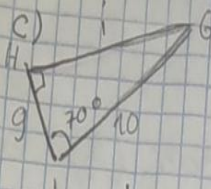
$$1 = \frac{1}{\tan 24^\circ}$$

$$1 = 2.2$$

$$\bullet \sin 24^\circ = \frac{1}{e}$$

$$e = \frac{1}{\sin 24^\circ}$$

$$e = 2.4$$



$$\bullet \sin 70^\circ = \frac{i}{10}$$

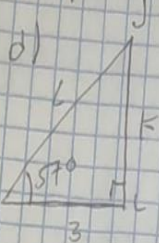
$$i = 10 \sin 70^\circ$$

$$i \approx 9.4$$

$$\bullet \cos 70^\circ = \frac{g}{10}$$

$$g = 10 \cos 70^\circ$$

$$g \approx 3.4$$



$$\bullet \cos 57^\circ = \frac{l}{5}$$

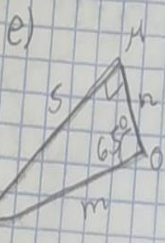
$$l = \frac{3}{\cos 57^\circ}$$

$$l = 5.5$$

$$\bullet \tan 57^\circ = \frac{k}{3}$$

$$k = 3 \tan 57^\circ$$

$$k = 4.6$$



$$\bullet \sin 65^\circ = \frac{5}{n}$$

$$n = \frac{5}{\sin 65^\circ}$$

$$n = 5.5$$

$$\bullet \tan 65^\circ = \frac{5}{m}$$

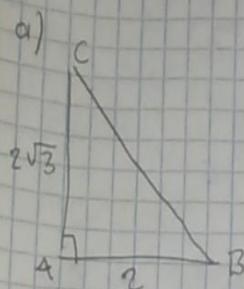
$$m = \frac{5}{\tan 65^\circ}$$

$$m = 2.3$$

1-F44

1.6

Página: 131



$$\tan C = \frac{2}{2\sqrt{3}}$$

$$\tan C = \frac{1}{\sqrt{3}}$$

$$\tan C = \frac{1}{\sqrt{3}}$$

$$C = \tan^{-1}\left(\frac{1}{\sqrt{3}}\right)$$

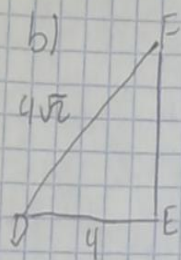
$$C = 18.4^\circ$$

$$A + B + C = 180^\circ$$

$$B = 180^\circ - 90^\circ - 18.4^\circ$$

$$B = 71.6^\circ$$

$$R/B = 71.6^\circ \text{ y } C = 18.4^\circ$$



$$\cos D = \frac{4}{4\sqrt{2}}$$

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

$$D + E + F = 180^\circ$$

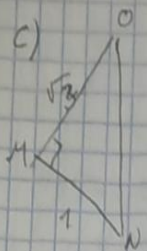
$$F = 180^\circ - 90^\circ - 45^\circ$$

$$\cos D = \frac{\sqrt{2}}{2}$$

$$D = \cos^{-1}\left(\frac{\sqrt{2}}{2}\right)$$

$$R/F = 45^\circ \text{ y } D = 45^\circ \quad D = 45^\circ$$

7: F44



$$\bullet \tan N = \sqrt{3}$$

$$\tan N = \frac{\sqrt{3}}{1}$$

$$\tan N = 60^\circ$$

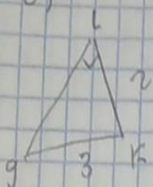
$$\bullet \tan O = \frac{1}{\sqrt{3}}$$

$$\tan O = \frac{1}{\sqrt{3}}$$

$$\tan O = 30^\circ$$

$$R/N = 60^\circ \text{ y } O = 30^\circ$$

d)



$$\bullet \sin J = \frac{2}{4}$$

$$J = \sin^{-1}\left(\frac{1}{2}\right)$$

$$J = 47.8^\circ$$

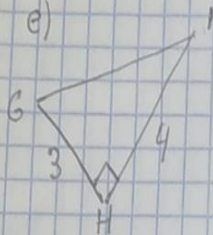
$$\bullet J + K + L = 180^\circ$$

$$K = 180^\circ - 90^\circ - 47.8^\circ$$

$$K = 42.2^\circ$$

$$R/G = 47.8^\circ \text{ y } K = 42.2^\circ$$

e)



$$\bullet \tan G = \frac{4}{3}$$

$$G = \tan^{-1}\left(\frac{4}{3}\right)$$

$$G = 53.7^\circ$$

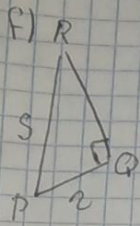
$$\bullet G + H + I = 180^\circ$$

$$I = 180^\circ - 90^\circ - 53.7^\circ$$

$$I = 36.3^\circ$$

$$R/G = 53.7^\circ \text{ y } I = 36.3^\circ$$

77 44



$$\cos P = \frac{2}{5}$$

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

$$P = 66.4^\circ$$

$$R / P = 66.4^\circ \text{ y } R = 23.6^\circ$$

$$P + Q + R = 180^\circ$$

$$R = 180^\circ - 90^\circ - 66.4^\circ$$

$$R = 23.6^\circ$$