



EJA

CANAL SEDUC-PI4



PROFESSOR (A):

**ALEXSANDRO
KESLLER**



DISCIPLINA:

MATEMÁTICA



AULA Nº:

10



CONTEÚDO:

**TRIÂNGULO
RETÂNGULO**



DATA:

23/06/2020

ROTEIRO DE AULA

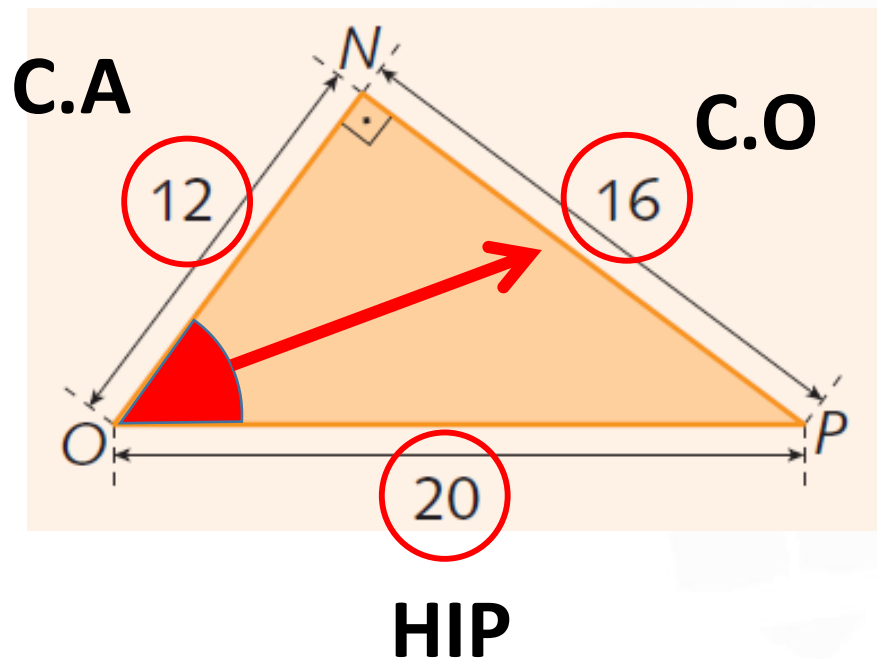
Trigonometria no Triângulo Retângulo

- Razões trigonométricas no triângulo retângulo;***
- Tabela de arcos notáveis.***

Canal
Educação
PROGRAMA DE MEDIAÇÃO TECNOLÓGICA

ATIVIDADE PARA CASA

01. Determine as seguintes razões trigonométricas



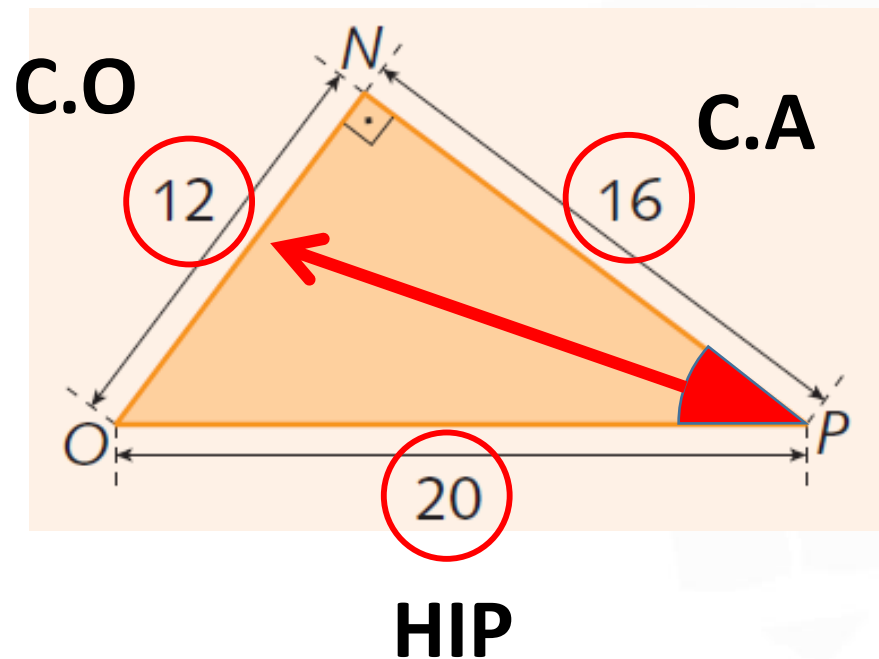
$$\text{sen } \hat{O}; \text{cos } \hat{P}; \text{tg } \hat{P}$$

$$\text{sen } \hat{O} = \frac{\cancel{16}}{\cancel{20}} = \frac{4}{5}$$



ATIVIDADE PARA CASA

01. Determine as seguintes razões trigonométricas



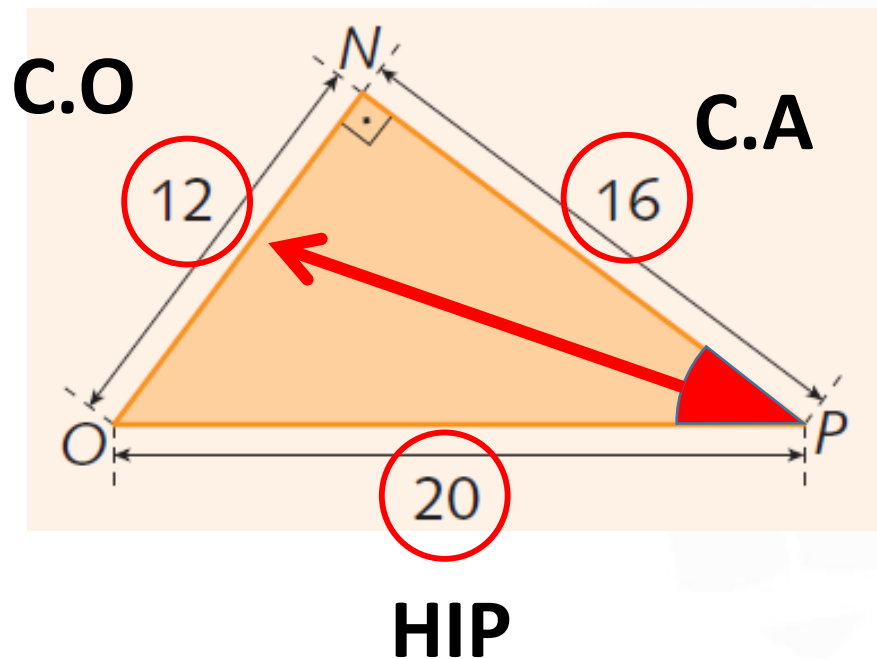
$$\text{sen } \hat{O}; \text{cos } \hat{P}; \text{tg } \hat{P}$$

$$\text{cos } \hat{P} = \frac{\cancel{16}}{\cancel{20}} = \frac{4}{5}$$



ATIVIDADE PARA CASA

01. Determine as seguintes razões trigonométricas



$$\text{sen } \hat{O}; \text{cos } \hat{P}; \text{tg } \hat{P}$$

$$\text{tg } \hat{P} = \frac{\cancel{12}}{\cancel{16}} = \frac{3}{4}$$



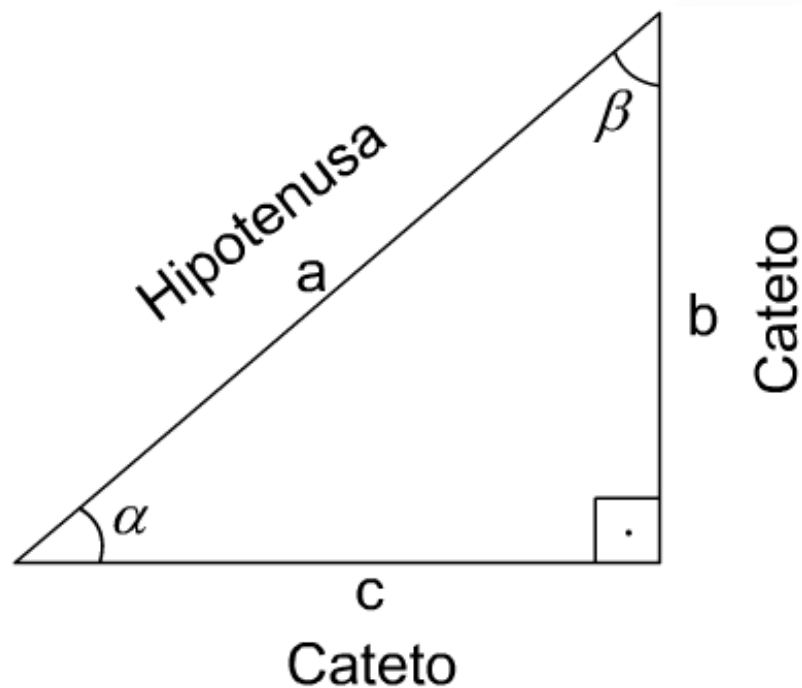
ATIVIDADE PARA CASA

02. Complete a Tabela de ângulos notáveis.

x	30°	45°	60°
$\text{sen } x$	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
$\text{cos } x$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
$\text{tg } x$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$



Razões Trigonométricas



Seno

$$\text{sen } \theta = \frac{\text{cateto oposto}}{\text{hipotenusa}} = \frac{\text{C.O}}{\text{HIP}}$$

Cosseno

$$\text{cos } \theta = \frac{\text{cateto adjacente}}{\text{hipotenusa}} = \frac{\text{C.A}}{\text{HIP}}$$

Tangente

$$\text{tg } \theta = \frac{\text{cateto oposto}}{\text{cateto adjacente}} = \frac{\text{C.O}}{\text{C.A}}$$

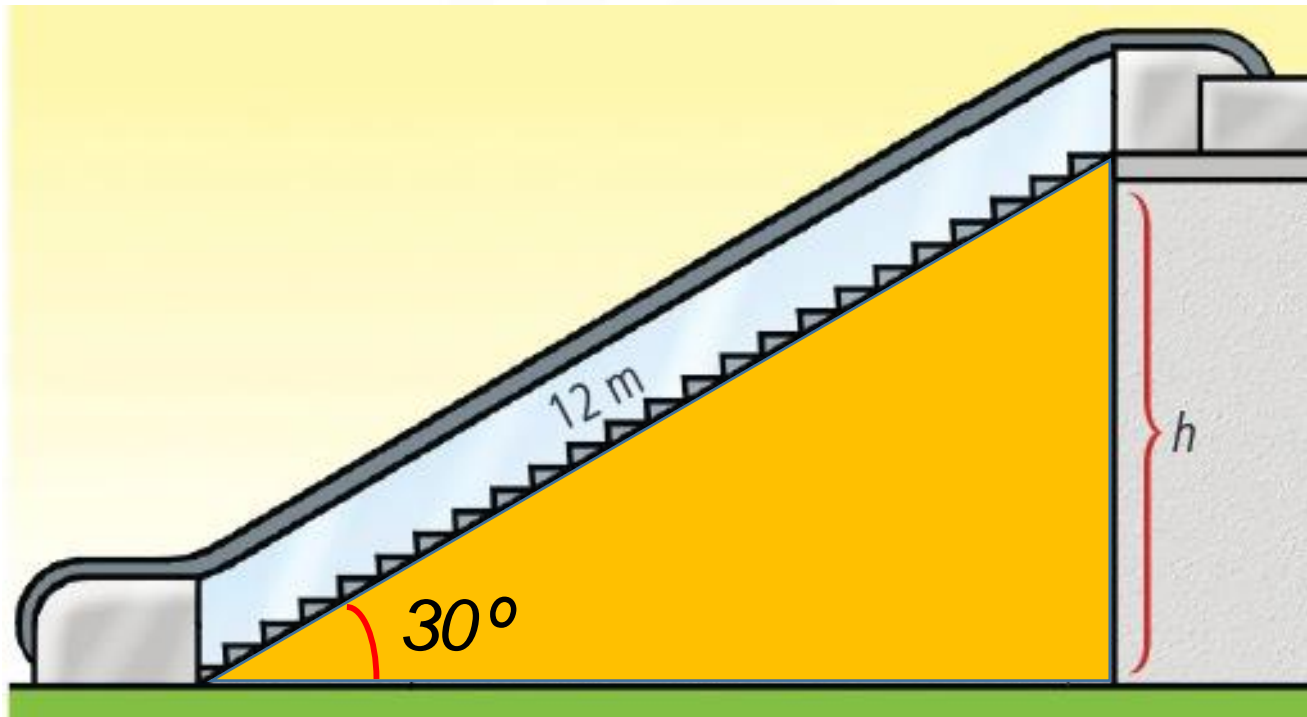
Tabela de arcos notáveis

Tabela dos valores trigonométricos de ângulos notáveis.

x	30°	45°	60°
$\text{sen } x$	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
$\text{cos } x$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
$\text{tg } x$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

ATIVIDADE

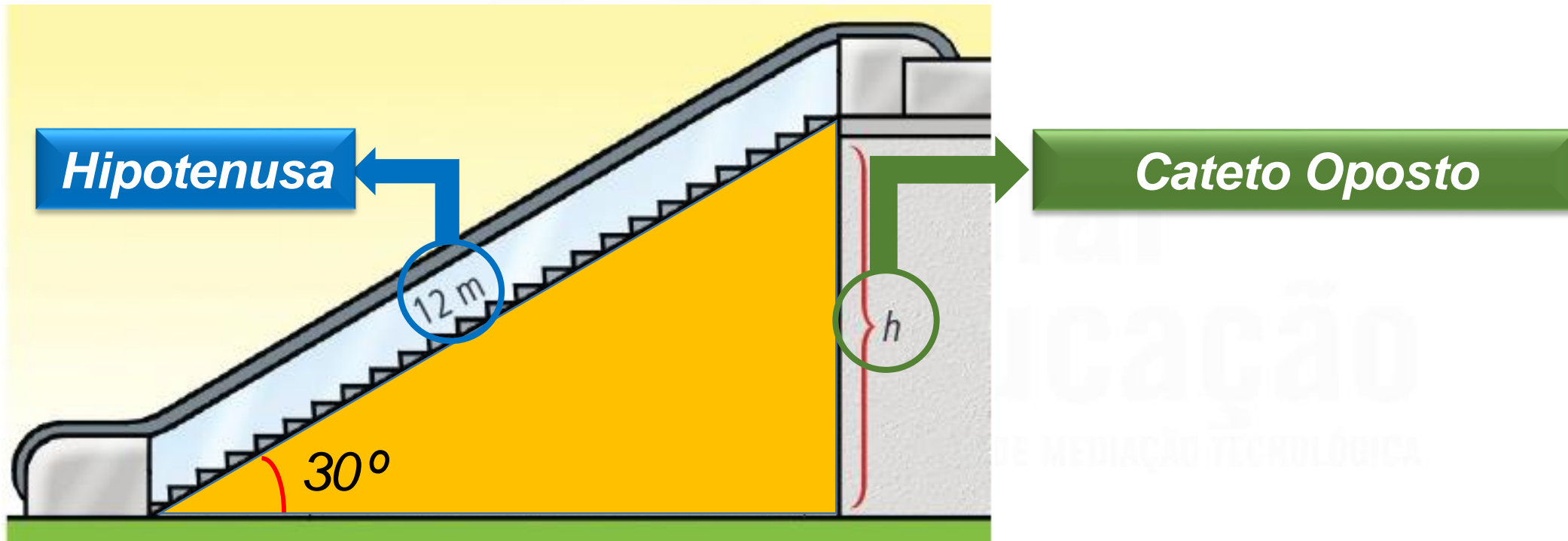
01. Uma escada rolante liga dois andares de um shopping e tem uma inclinação de 30° . Sabendo-se que a escada rolante tem 12 metros de comprimento, calcule a altura de um andar para o outro.



$$\text{sen } \theta = \frac{C.O}{HIP}$$

$$\text{cos } \theta = \frac{C.A}{HIP}$$

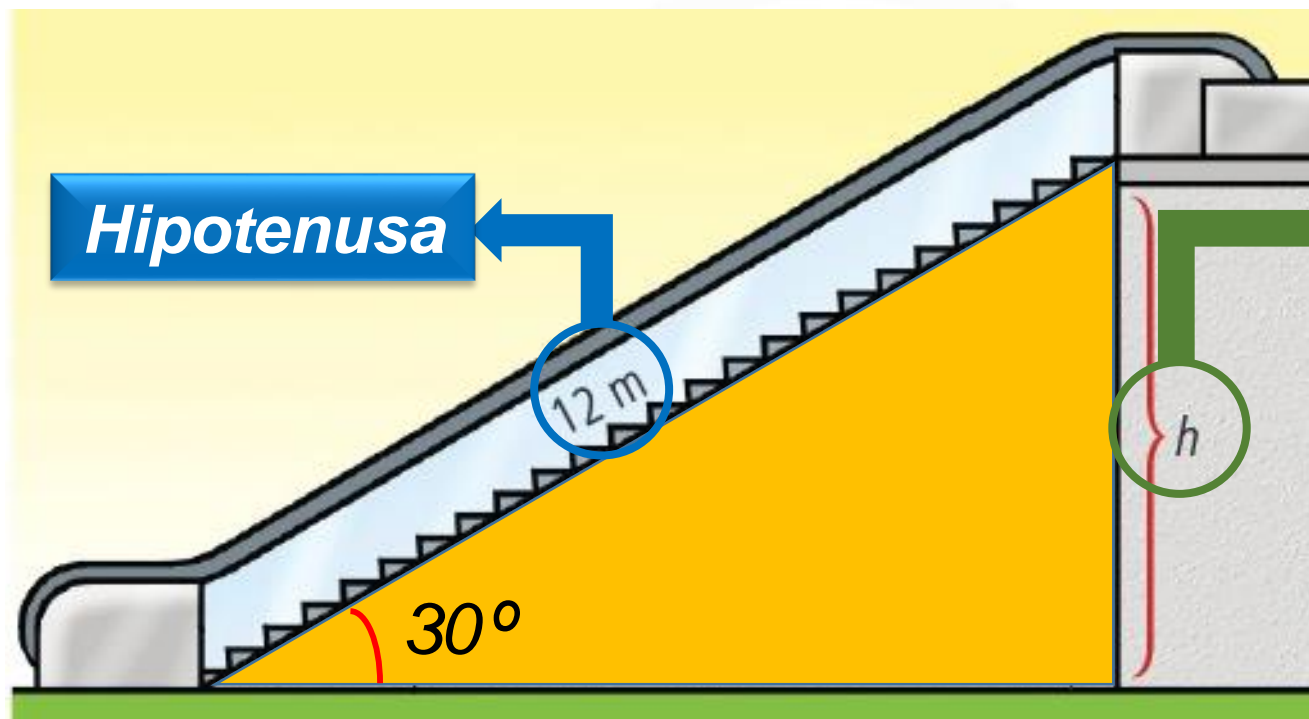
$$\text{tg } \theta = \frac{C.O}{C.A}$$



$$\text{sen } \theta = \frac{\text{C.O}}{\text{HIP}}$$

$$\text{cos } \theta = \frac{\text{C.A}}{\text{HIP}}$$

$$\text{tg } \theta = \frac{\text{C.O}}{\text{C.A}}$$



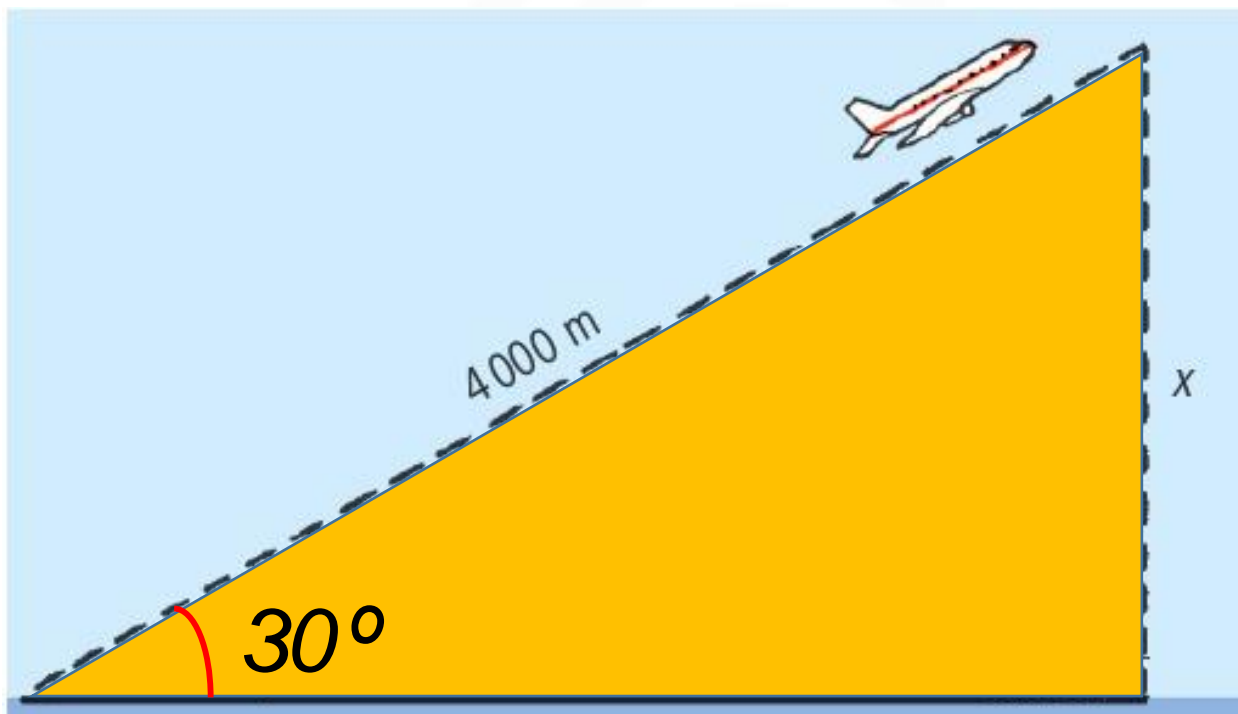
$$\Rightarrow h = \frac{12}{2}$$

$$h = 6 \text{ m}$$

$$\text{sen } 30^\circ = \frac{h}{12} \Rightarrow \frac{1}{2} = \frac{h}{12} \Rightarrow 2h = 12$$

ATIVIDADE

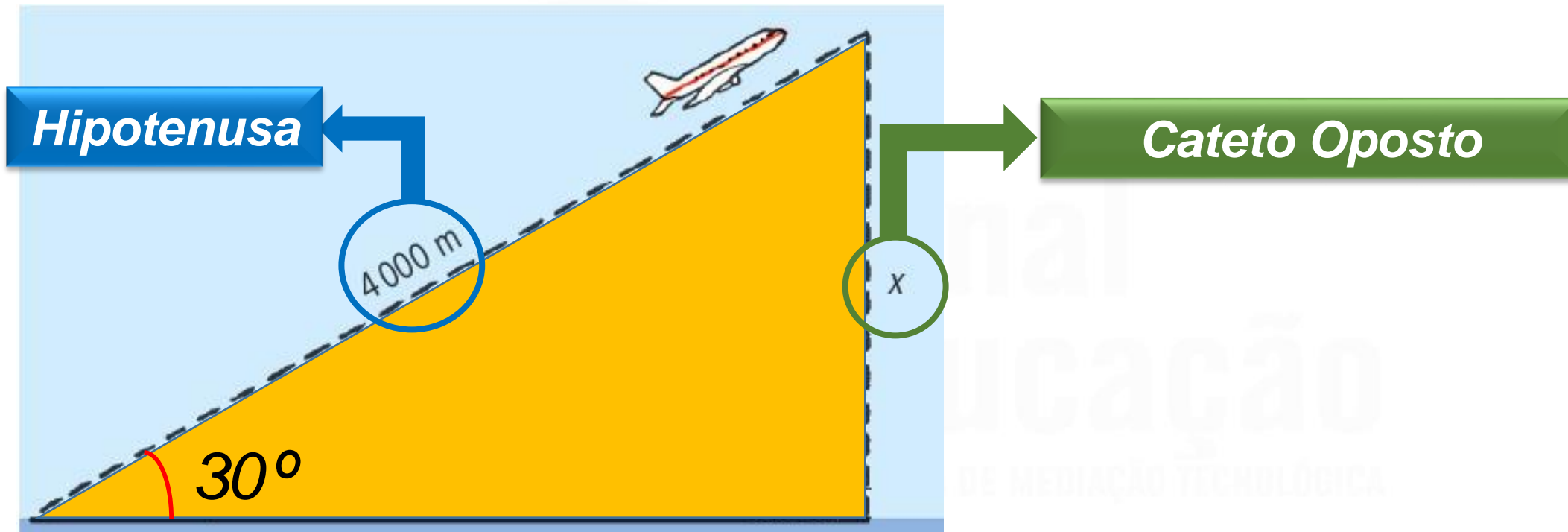
02. Um avião levanta vôo sob um ângulo de 30° em relação à pista. Qual será a altura do avião quando este percorrer 4 000 m em linha reta?



$$\text{sen } \theta = \frac{C.O}{HIP}$$

$$\text{cos } \theta = \frac{C.A}{HIP}$$

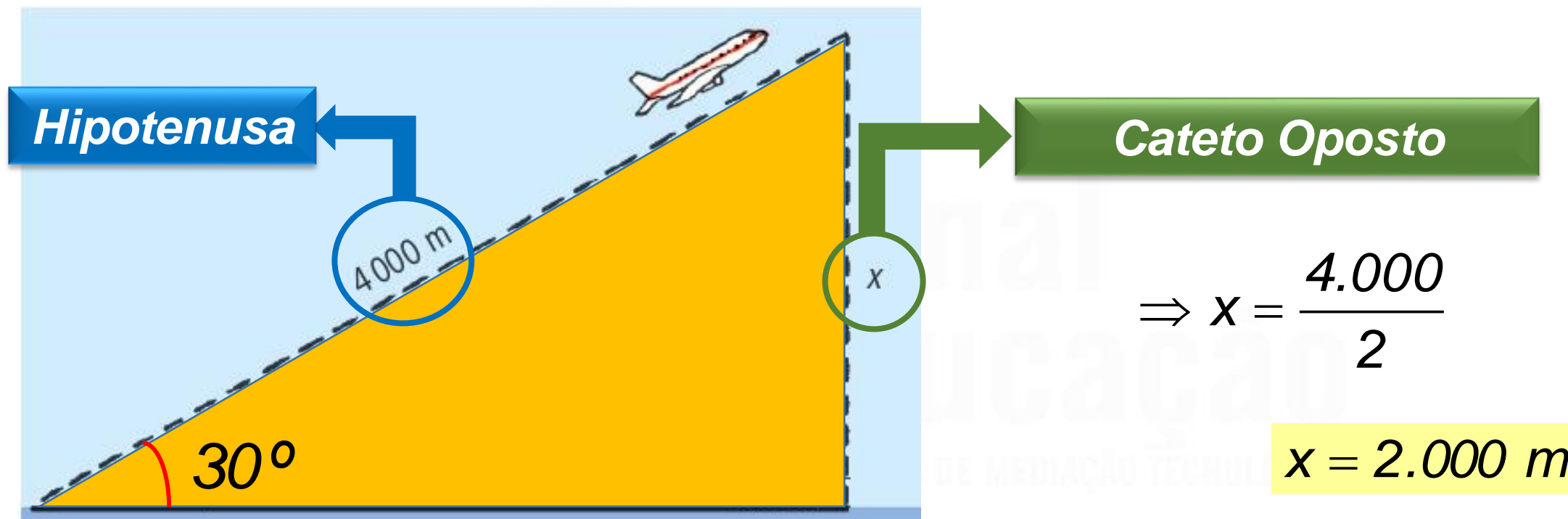
$$\text{tg } \theta = \frac{C.O}{C.A}$$



$$\text{sen } \theta = \frac{C.O}{HIP}$$

$$\text{cos } \theta = \frac{C.A}{HIP}$$

$$\text{tg } \theta = \frac{C.O}{C.A}$$



$$\Rightarrow x = \frac{4.000}{2}$$

$$x = 2.000 \text{ m}$$

$$\text{sen } 30^\circ = \frac{x}{4.000} \Rightarrow \frac{1}{2} = \frac{x}{4.000} \Rightarrow 2x = 4.000$$