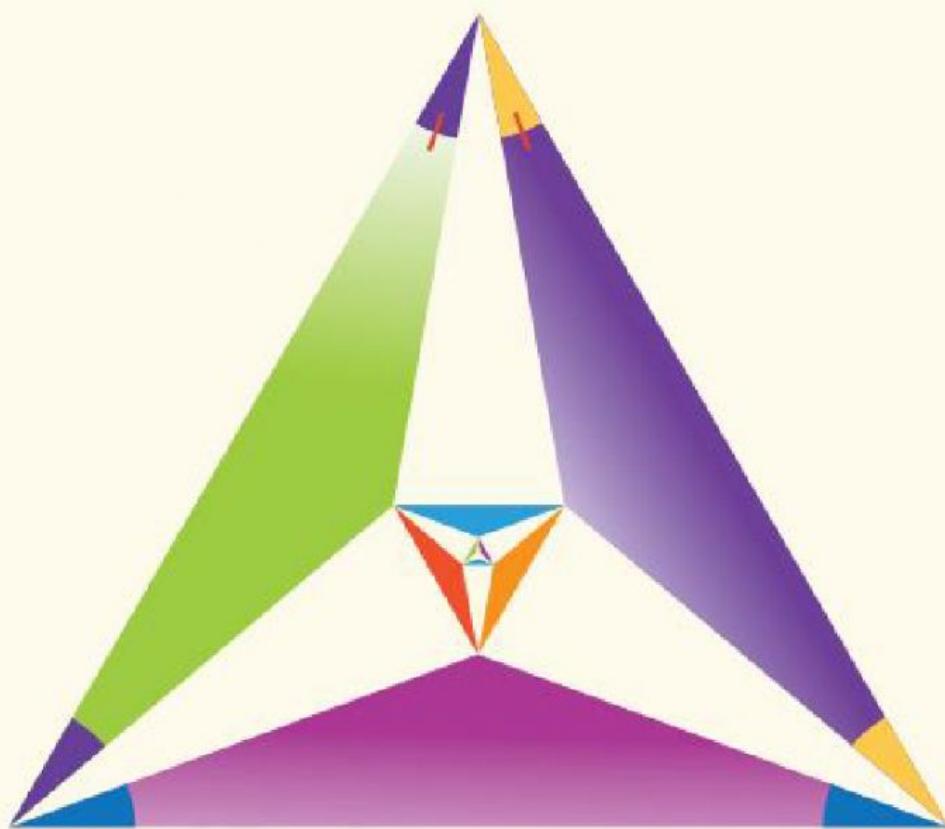




# Matemática

Primer año de bachillerato



Sugerencia Metodológica  
Tomo 2

**ESMATE**  
LIVEWORKSHEETS

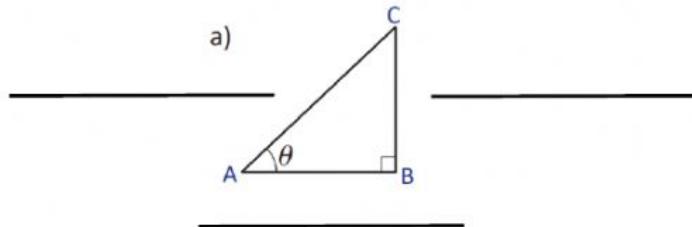
**COLOQUE LOS NOMBRES CORRECTOS**

**Problemas** 

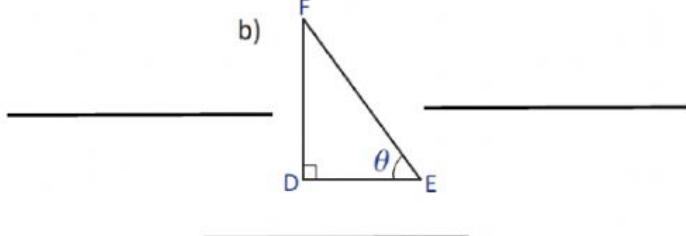
En un triángulo rectángulo, el lado que se opone al ángulo de  $90^\circ$  se conoce como **hipotenusa** y los dos lados que forman dicho ángulo se conocen como **catedos**. Además, la hipotenusa es el lado de mayor longitud.

Identifica la hipotenusa, el lado opuesto y adyacente del ángulo  $\theta$  y expresa las razones trigonométricas para cada caso.

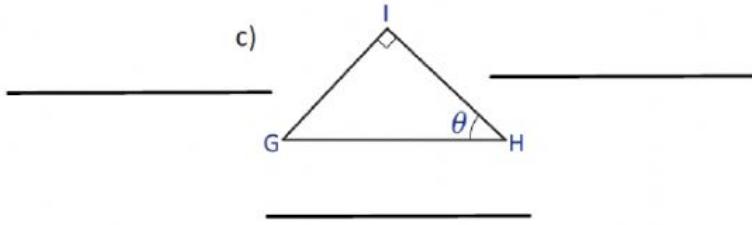
a)



b)



c)

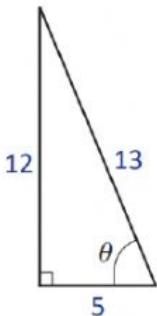


**ESCOJA LA RESPUESTA CORRECTA**

**Problemas** 

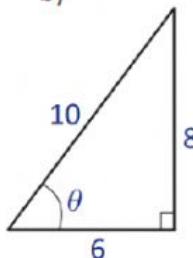
1. Para cada uno de los siguientes triángulos, calcula las razones trigonométricas  $\sin \theta$ ,  $\cos \theta$ , y  $\tan \theta$ . Simplifica o racionaliza cuando sea posible.

a)



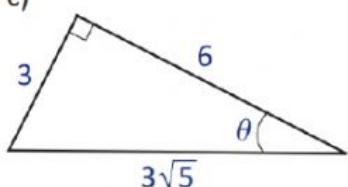
- a)  $\sin \frac{\text{hip}}{\text{op}} = \frac{13}{12}$       a)  $\cos \frac{\text{ady}}{\text{op}} = \frac{5}{12}$       a)  $\tan \frac{\text{ady}}{\text{op}} = \frac{5}{12}$   
b)  $\sin \frac{\text{ady}}{\text{op}} = \frac{5}{12}$       b)  $\cos \frac{\text{ady}}{\text{hip}} = \frac{5}{13}$       b)  $\tan \frac{\text{op}}{\text{hip}} = \frac{12}{13}$   
c)  $\sin \frac{\text{op}}{\text{hip}} = \frac{12}{13}$       c)  $\cos \frac{\text{hip}}{\text{ady}} = \frac{13}{5}$       c)  $\tan \frac{\text{op}}{\text{ady}} = \frac{12}{5}$

b)

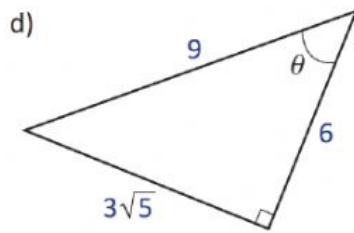


- a)  $\sin \frac{\text{hip}}{\text{op}} = \frac{10}{8}$       a)  $\cos \frac{\text{ady}}{\text{hip}} = \frac{6}{10}$       a)  $\tan \frac{\text{ady}}{\text{hip}} = \frac{6}{10}$   
b)  $\sin \frac{\text{op}}{\text{hip}} = \frac{8}{10}$       b)  $\cos \frac{\text{op}}{\text{hip}} = \frac{8}{10}$       b)  $\tan \frac{\text{op}}{\text{ady}} = \frac{8}{6}$   
c)  $\sin \frac{\text{op}}{\text{ady}} = \frac{8}{6}$       c)  $\cos \frac{\text{hip}}{\text{ady}} = \frac{10}{6}$       c)  $\tan \frac{\text{hip}}{\text{op}} = \frac{10}{8}$

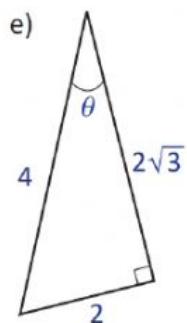
c)



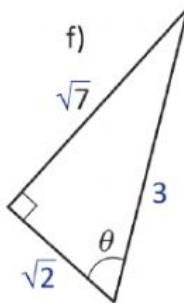
- a)  $\sin \frac{\text{op}}{\text{hip}} = \frac{3}{3\sqrt{5}}$       a)  $\cos \frac{\text{hip}}{\text{ady}} = \frac{3\sqrt{5}}{6}$       a)  $\tan \frac{\text{ady}}{\text{hip}} = \frac{6}{3\sqrt{5}}$   
b)  $\sin \frac{\text{hip}}{\text{ady}} = \frac{3\sqrt{5}}{6}$       b)  $\cos \frac{\text{op}}{\text{hip}} = \frac{3}{3\sqrt{5}}$       b)  $\tan \frac{\text{op}}{\text{hip}} = \frac{3}{3\sqrt{5}}$   
c)  $\sin \frac{\text{op}}{\text{ady}} = \frac{3}{6}$       c)  $\cos \frac{\text{ady}}{\text{hip}} = \frac{6}{3\sqrt{5}}$       c)  $\tan \frac{\text{op}}{\text{ady}} = \frac{3}{6}$



- |  |  |  |
|--|--|--|
| a) $\sin \frac{op}{hip} = \frac{3\sqrt{5}}{9}$ | a) $\cos \frac{hip}{ady} = \frac{9}{6}$        | a) $\tan \frac{ady}{hip} = \frac{6}{9}$        |
| b) $\sin \frac{hip}{ady} = \frac{9}{6}$        | b) $\cos \frac{op}{hip} = \frac{3\sqrt{5}}{9}$ | b) $\tan \frac{op}{hip} = \frac{3\sqrt{5}}{9}$ |
| c) $\sin \frac{ady}{hip} = \frac{6}{9}$        | c) $\cos \frac{ady}{hip} = \frac{6}{9}$        | c) $\tan \frac{op}{ady} = \frac{3\sqrt{5}}{6}$ |



- |   |   |  |
|---|---|--|
| a) $\sin \frac{ady}{hip} = \frac{2\sqrt{3}}{4}$ | a) $\cos \frac{hip}{ady} = \frac{9}{6}$         | a) $\tan \frac{ady}{op} = \frac{2\sqrt{3}}{2}$ |
| b) $\sin \frac{hip}{ady} = \frac{4}{2\sqrt{3}}$ | b) $\cos \frac{ady}{hip} = \frac{2\sqrt{3}}{4}$ | b) $\tan \frac{op}{hip} = \frac{2}{4}$         |
| c) $\sin \frac{op}{hip} = \frac{2}{4}$          | c) $\cos \frac{ady}{op} = \frac{2\sqrt{3}}{2}$  | c) $\tan \frac{op}{ady} = \frac{2}{2\sqrt{3}}$ |



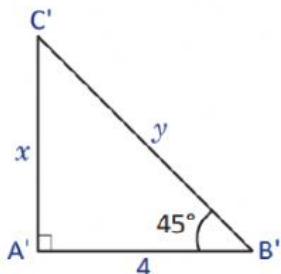
- |  |  |  |
|--|--|--|
| a) $\sin \frac{ady}{hip} = \frac{\sqrt{2}}{3}$       | a) $\cos \frac{hip}{ady} = \frac{3}{\sqrt{2}}$ | a) $\tan \frac{ady}{op} = \frac{\sqrt{2}}{\sqrt{7}}$ |
| b) $\sin \frac{op}{hip} = \frac{\sqrt{7}}{3}$        | b) $\cos \frac{op}{hip} = \frac{\sqrt{7}}{3}$  | b) $\tan \frac{op}{ady} = \frac{\sqrt{7}}{\sqrt{2}}$ |
| c) $\sin \frac{op}{ady} = \frac{\sqrt{7}}{\sqrt{2}}$ | c) $\cos \frac{ady}{hip} = \frac{\sqrt{2}}{3}$ | c) $\tan \frac{hip}{ady} = \frac{3}{\sqrt{2}}$       |

**TRACE UNA LINEA A LA RESPUESTA CORRECTA**

**Problemas** 

Encuentra el valor de  $x$  y  $y$  en cada triángulo.

a)



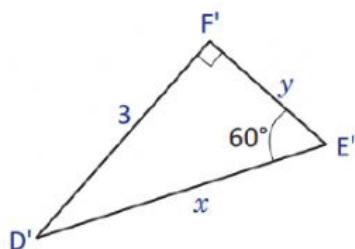
$x$  •

$y$  •

- 4
- 3
- 5

- $4\sqrt{2}$
- $4\sqrt{3}$
- $2\sqrt{4}$

b)



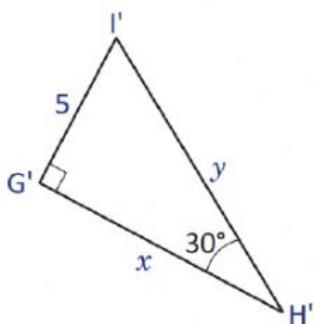
$x$  •

$y$  •

- $3\sqrt{2}$
- $2\sqrt{3}$
- $2\sqrt{2}$

- $\sqrt{1}$
- $\sqrt{9}$
- $\sqrt{3}$

c)



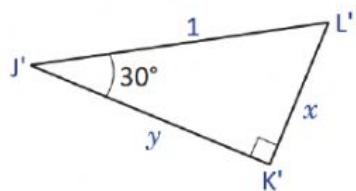
$x$  •

$y$  •

- $10\sqrt{6}$
- $3\sqrt{5}$
- $5\sqrt{3}$

- 5
- 10
- 7

d)



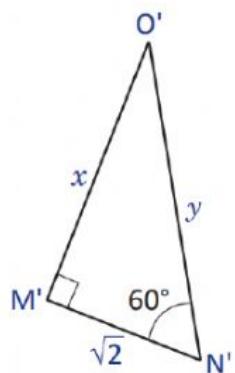
$x$  ●  
\_\_\_\_\_

$y$  ●

- 0.5
- 3.5
- 1.5

- 0.5
- 1
- 0.86

e)



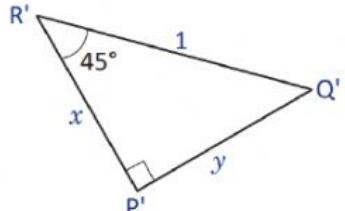
$x$  ●  
\_\_\_\_\_

$y$  ●

- $\sqrt{2}$
- $\sqrt{3}$
- $\sqrt{6}$

- $5\sqrt{2}$
- $2\sqrt{3}$
- $2\sqrt{2}$

f)



$x$  ●  
\_\_\_\_\_

$y$  ●

- 0.7
- 0.9
- 0.55

- 0.1
- 0.7
- 0.33