

Exercice feuillet

Supplémentaires : pratique des rapports trigonométriques.

Exercice :

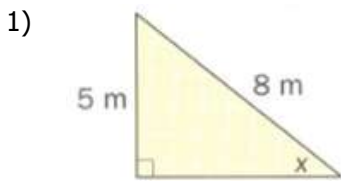
1. Calcule les rapports trigonométriques suivants, au millième près.

- | | | | | | |
|------------|------------|------------|-----------|------------|------------|
| a) Sin 27° | b) Cos 56° | c) Tan 78° | d) Cos 7° | e) Tan 40° | f) Sin 62° |
| 0,454 | 0,559 | 4,705 | 0,993 | 0,839 | 0,883 |

2. Trouve la mesure de chaque angle, au degré près.

- | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a) sin D = 0,602 | b) cos A = 0,309 | c) tan C = 0,445 | d) tan R = 2,246 | e) sin X = 0,978 | f) cos W = 0,951 |
| $\angle D = 37^\circ$ | $\angle A = 72^\circ$ | $\angle C = 24^\circ$ | $\angle R = 66^\circ$ | $\angle X = 78^\circ$ | $\angle W = 18^\circ$ |

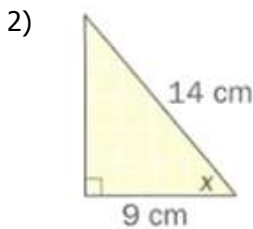
Trouve $\angle x$, au degré près.



$$\sin x = \frac{5}{8}$$

$$\sin x = 0,625$$

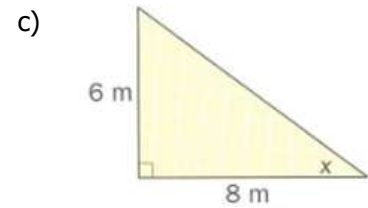
$$\angle x = 39^\circ$$



$$\cos x = \frac{9}{14}$$

$$\cos x = 0,643$$

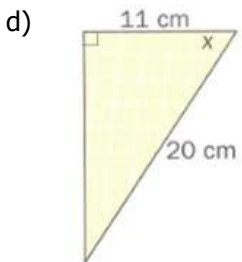
$$\angle x = 50^\circ$$



$$\tan x = \frac{6}{8}$$

$$\tan x = 0,75$$

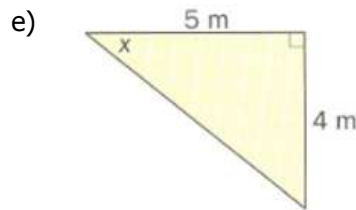
$$\angle x = 37^\circ$$



$$\cos x = \frac{11}{20}$$

$$\cos x = 0,55 \quad \angle R = 66^\circ$$

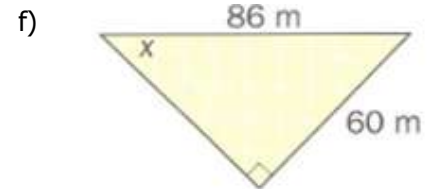
$$\angle x = 57^\circ$$



$$\tan x = \frac{4}{5}$$

$$\tan x = 0,8 \quad \angle X = 78^\circ$$

$$\angle x = 39^\circ$$



$$\sin x = \frac{60}{86}$$

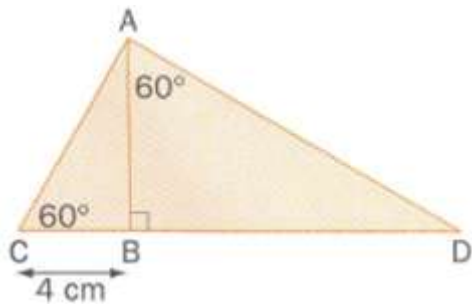
$$\sin x = 0,698 \quad \angle W = 18^\circ$$

$$\angle x = 44^\circ$$

Exercice feuillet

Dans les problèmes suivants, ne résous pas les radicaux. Simplifie les rapports et les expressions radicales.

1. Trouve les longueurs AB, AC, BD et AD.



Triangle ABC

$$\tan 60^\circ = \frac{AB}{4}$$

$$4 \times 1,732 = AB$$

$$AB = 6,9 \text{ cm}$$

$$\cos 60^\circ = \frac{4}{AC}$$

$$AC \times 0,5 = 4$$

$$AC = 8 \text{ cm}$$

Triangle ABD

$$\tan 60^\circ = \frac{BD}{6,9}$$

$$6,9 \times 1,732 = BD$$

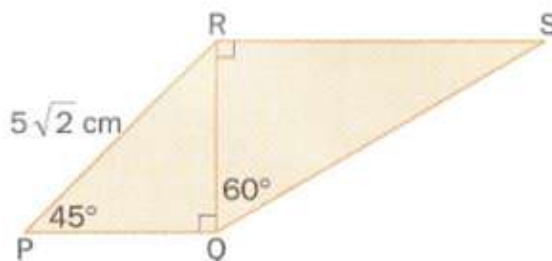
$$BD = 12,0 \text{ cm}$$

$$\sin 60^\circ = \frac{12}{AD}$$

$$AD \times 0,866 = 12$$

$$AD = 13,9 \text{ cm}$$

2. Trouve les longueurs de RS, QS, QR et PQ



Triangle PQR

$$\sin 45^\circ = \frac{RQ}{5\sqrt{2}}$$

$$5\sqrt{2} \times 0,707 = RQ$$

$$RQ = 5 \text{ cm}$$

$$PQ = 5 \text{ cm}$$

Triangle QRS

$$\tan 60^\circ = \frac{RS}{5}$$

$$5 \times 1,732 = RS$$

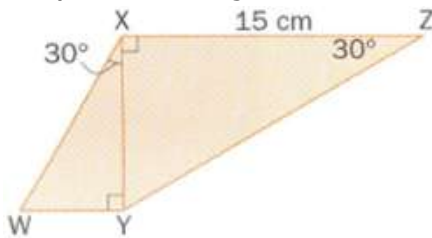
$$RS = 8,66 \text{ cm}$$

$$\sin 60^\circ = \frac{8,66}{QS}$$

$$QS \times 0,866 = 8,66$$

$$QS = 10 \text{ cm}$$

3. a) Trouve la longueur de WX. b) Trouve le rapport entre la longueur de YZ et la longueur de WY.



Triangle XYZ

$$\tan 30^\circ = \frac{XY}{15}$$

$$15 \times 0,577 = XY$$

$$XY = 8,66$$

$$\sin 30^\circ = \frac{8,66}{YZ}$$

$$YZ \times 0,5 = 8,66$$

$$YZ = 17,32$$

Triangle XYW

$$\cos 30^\circ = \frac{8,66}{WX}$$

$$WX \times 0,866 = 8,66$$

$$WX = 10 \text{ cm}$$

$$\sin 30^\circ = \frac{WY}{10}$$

$$10 \times 0,5 = WY$$

$$WY = 5 \text{ cm}$$

$$\frac{YZ}{WY} = \frac{17,32}{5} = 3,5$$

Exercice feuillet

Calcule x, au dixième d'unité près.

1.

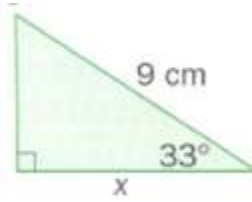


$$\sin 23^\circ = \frac{x}{20}$$

$$20 \times 0,3907 = x$$

$$x = 7,8 \text{ cm}$$

2.

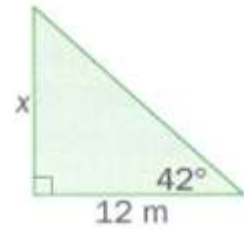


$$\cos 33^\circ = \frac{x}{9}$$

$$9 \times 0,8387 = x$$

$$x = 7,5 \text{ cm}$$

3.

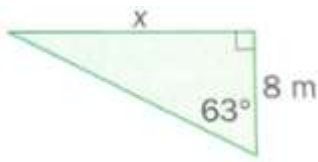


$$\tan 42^\circ = \frac{x}{12}$$

$$12 \times 0,900 = x$$

$$x = 10,8 \text{ m}$$

4.

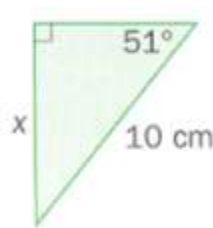


$$\tan 63^\circ = \frac{x}{8}$$

$$8 \times 1,9626 = x$$

$$x = 15,7 \text{ m}$$

5.



$$\sin 51^\circ = \frac{x}{10}$$

$$10 \times 0,7771 = x$$

$$x = 7,8 \text{ cm}$$

6.



$$\cos 65^\circ = \frac{x}{40}$$

$$40 \times 0,4226 = x$$

$$x = 16,9 \text{ m}$$