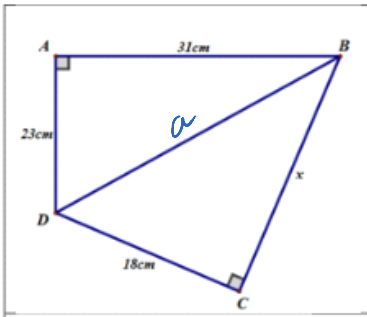
Pythagore- exercices 2

February-18-14
12:25 AM

Théorème de Pythagore – exercices 2 Nom_____Per_____

1. Calcule le côté inconnu dans les triangles ci-dessous:



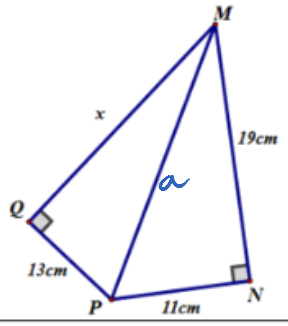
1) Dans ΔADB : $a^2 = 31^2 + 23^2 = 1490$

2) Dans ΔBCD : $x^2 = a^2 - 18^2$

$x^2 = 1490 - 324$

$x^2 = 1166$

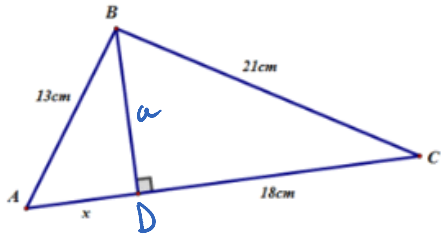
$\boxed{x = \sqrt{1166}}$



1) Dans ΔMNP : $a^2 = 11^2 + 19^2 = 121 + 361 = 482$

2) Dans ΔMQP : $x^2 = a^2 - 13^2 = 482 - 169 = 313$

$\boxed{x = \sqrt{313}}$

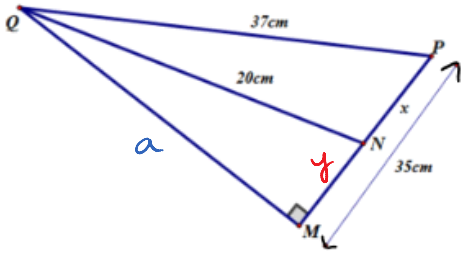


1) Dans ΔBCD : $a^2 = 21^2 - 18^2 = 117$

2) Dans ΔABD :

$x^2 = 13^2 - a^2 = 169 - 117 = 52$

$\boxed{x = \sqrt{52}}$



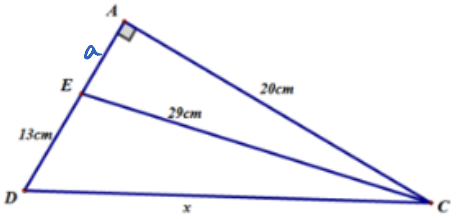
1) Dans ΔQPM : $a^2 = 37^2 - 35^2 = 144$

$a = 12$

2) Dans ΔQMN : $MN^2 = 20^2 - 144 = 256$ (y^2)

Alors $y = \sqrt{256} = 16$

3) $x = 35 - 16 = \boxed{19}$



1) Dans ΔAEC : $a^2 = 29^2 - 20^2 = 441$

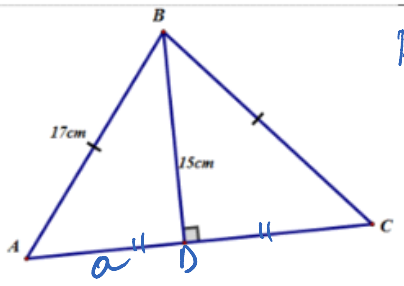
$a = \sqrt{441} = 21$

2) $AD = 21 + 13 = 34$

3) Dans ΔADC : $x^2 = AD^2 + AC^2$

$x^2 = 34^2 + 20^2 = 1556$; alors $\boxed{x = \sqrt{1556}}$

2. Calcule l'aire des triangles ci-dessous :



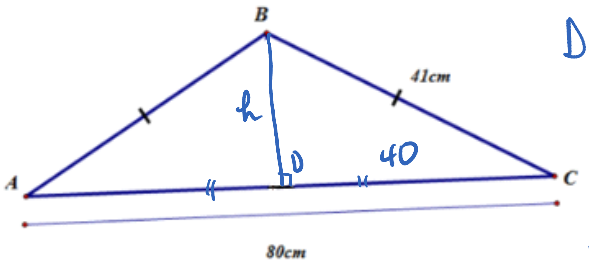
Aire $\Delta = \dfrac{\text{hauteur} \cdot \text{base}}{2}$

1) Dans ΔABD : $a^2 = 17^2 - 15^2 = 64$

$\Rightarrow a = 8$

alors la base $= 16$

Aire $= \dfrac{\overset{8}{\cancel{16}} \cdot 15}{\cancel{2}} = \boxed{120}\ cm^2$



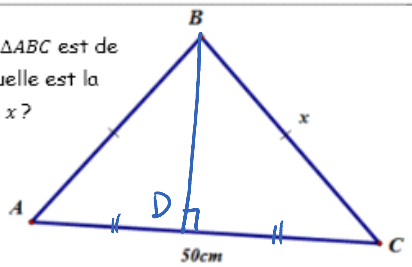
Dans ΔBDC :

$h^2 = 41^2 - 40^2 = 81$

$h = 9$

Aire $\Delta ABC = \dfrac{9 \cdot \overset{40}{\cancel{80}}}{\cancel{2}} = 360\ cm^2$

L'aire de ΔABC est de $175u^2$. Quelle est la valeur de x ?



Aire $= \dfrac{\text{hauteur} \cdot \cancel{50}}{\cancel{2}} = 25 \cdot \text{hauteur}$

$175 = 25 \cdot h$

$\div 25 \quad \div 25$

$h = 7\ cm$

Dans ΔBDC : $x^2 = 25^2 + 7^2 =$

$= 625 + 49 = 674$

$\boxed{x = \sqrt{674}}$