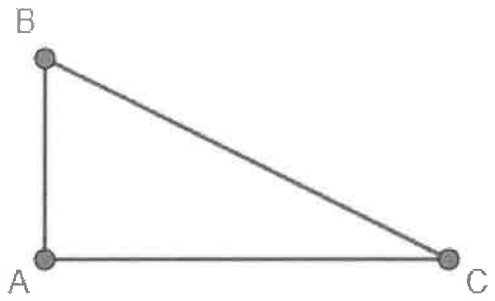
3) Quelques applications (VOIR AUSSI **FICHE METHODE**).

a. L'unité choisie étant le mètre et sachant que le triangle est rectangle en A, complète le tableau suivant.

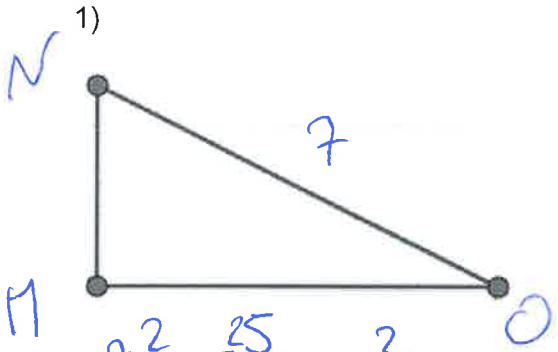


	$\|AB\|$= c	$\|AC\|$= b	$\|BC\|$= a
1)	3	4	5
2)	5	12	12
3)	6	8	10
4)	3	5	$\sqrt{34}$
5)	$\sqrt{51}$	7	10

b. Dans chaque cas, détermine la mesure manquante du triangle MNO

	Rectangle en	|MN|	|MO|	|NO|
1	M		5	7
2	N	6	7	
3	O		4	9
4	N		12	7

1)



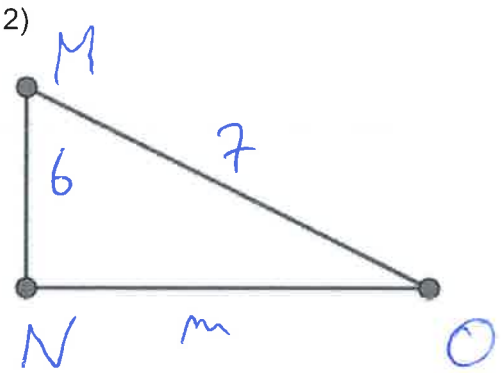
$7^2 = 5^2 + o^2$

$49 = 25 + o^2$

$24 = o^2$

$\sqrt{24} = o$

2)



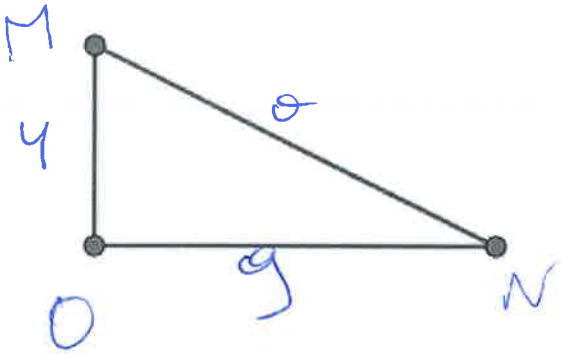
$7^2 = 6^2 + m^2$

$49 = 36 + m^2$

$13 = m^2$

$\sqrt{13} = m$

3)



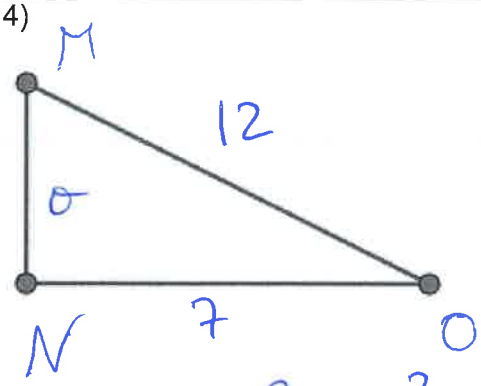
$o^2 = 4^2 + 9^2$

$o^2 = 16 + 81$

$o^2 = 97$

$o = \sqrt{97}$

4)



$12^2 = 7^2 + o^2$

$144 = 49 + o^2$

$95 = o^2$

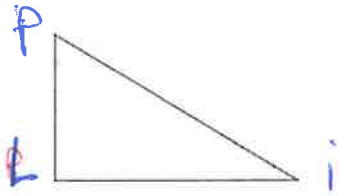
$\sqrt{95} = o$

Voir aussi dans le livre : p. 38 :Ex. 3 et p.52 : 18 et 19

Exercices supplémentaires sur Pythagore

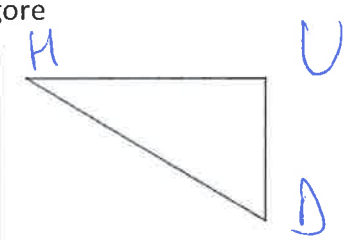
Compétence : Savoirs

Dans chaque situation, écris l'égalité de Pythagore



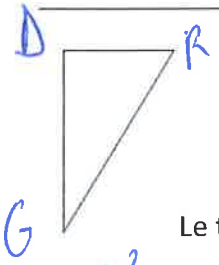
Le triangle PLI est rectangle en L

$l^2 = p^2 + i^2$ $|PI|^2 = |PL|^2 + |LI|^2$



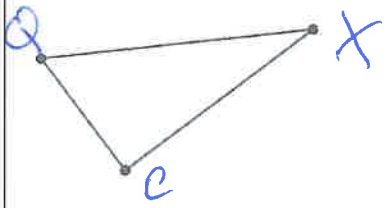
Le triangle UHD est rectangle en U

$u^2 = d^2 + h^2$ $|HD|^2 = |HU|^2 + |UD|$



Le triangle DRG est rectangle en D

$d^2 = r^2 + g^2$ $|RG|^2 = |DR|^2 + |DG|^2$



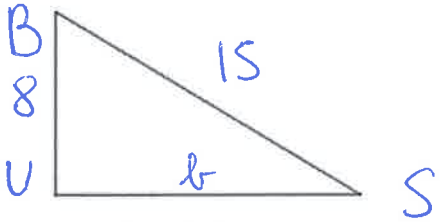
Le triangle QXCest rectangle en C

$c^2 = q^2 + x^2$ $|QX|^2 = |QC|^2 + |CX|^2$

Compétence : Application

1. Soit BUS un triangle rectangle en U.

On sait que |BU| = 8 cm et que |US| = 15 cm. Sans construire le triangle, calcule |US|.



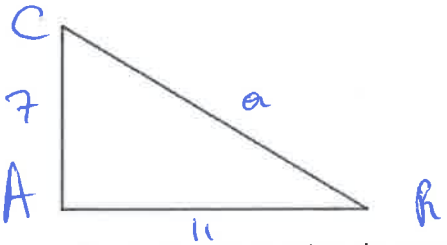
$15^2 = 8^2 + b^2$

$225 = 64 + b^2$

$161 = b^2$ $b = \sqrt{161}$

2. Soit CAR un triangle rectangle en A.

On sait que |CA| = 7cm et que |RA| = 11 cm. Sans construire le triangle, calcule |CR|



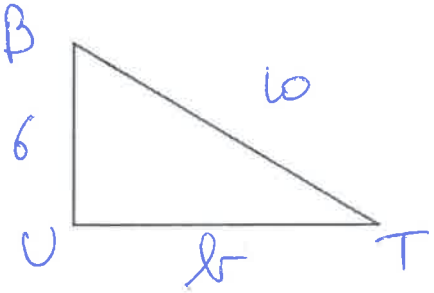
$a^2 = 11^2 + 7^2$

$a^2 = 121 + 49$

$a^2 = 170$ $a = \sqrt{170}$

3. Soit BUT un triangle rectangle en U.

On sait que |BU| = 6 cm et que |BT| = 10 cm. Sans construire le triangle, calcule |UT|.



$10^2 = 6^2 + b^2$

$100 = 36 + b^2$

$64 = b^2$

$8 = b$