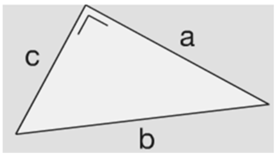
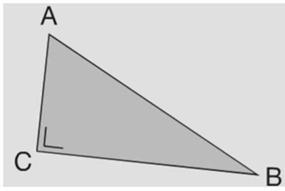
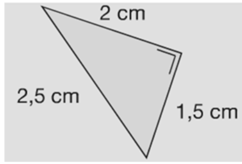
<u>Solutions du T5</u>



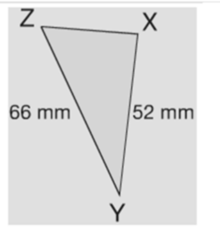
$b^2 = a^2 + c^2$



$|AB|^2 = |AC|^2 + |BC|^2$



$2{,}5^2 = 2^2 + 1{,}5^2$



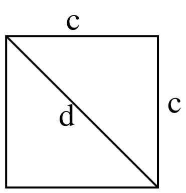
Pas d'application

1) $\sqrt{242} = 11\sqrt{2}$

2) $\sqrt{1296} = \sqrt{2^4 \cdot 3^4} = 2^2 \cdot 3^2 = 36$

3) $\sqrt{0{,}000016} = \sqrt{\frac{16}{1000\,000}} = \frac{4}{1000} = 0{,}004$

4) $\sqrt{2^5 \cdot 5^2 \cdot 7^3} = \sqrt{2^4 \cdot 2 \cdot 5^2 \cdot 7^2.7} = 2^2 \cdot 5 \cdot 7\sqrt{2.7} = 140\sqrt{14}$

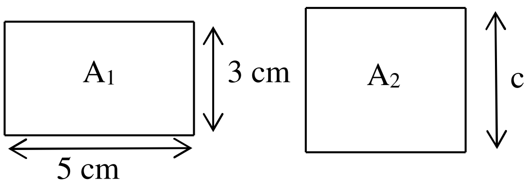


Par le théorème de Pythagore, dans le triangle rectangle, on a :

$d^2 = c^2 + c^2$

$d^2 = 2c^2$

$d = \sqrt{2c^2} = \sqrt{2} \cdot c$



Aire (A_1) = aire(A_2) = 15 cm²

L'aire d'un carré de côté c vaut c² et donc c = $\sqrt{15}$

La longueur de c vaut $\sqrt{15}$ cm

Par Le théorème de Pythagore :

a) le ∆ABC est rectangle en A, on a :

$|BC|^2 = 6^2 + 8^2$

$|BC|^2 = 100$

$|BC| = \sqrt{100}$

$|BC| = 10$

Réponse : $|BC| = 10\ mm$

b) le ∆XYZ est rectangle en Z, on a :

$13^2 = |XZ|^2 + 12^2$

$169 = |XZ|^2 + 144$

$169 - 144 = |XZ|^2$

$|XZ|^2 = 25$

$|XZ| = \sqrt{25} = 5$

Réponse : $|XZ| = 5\ cm$