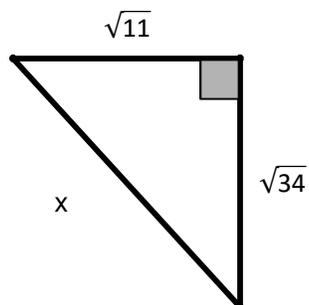


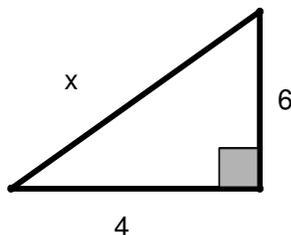
Théorème de Pythagore - Exercices

Trouve la mesure manquante et justifie.

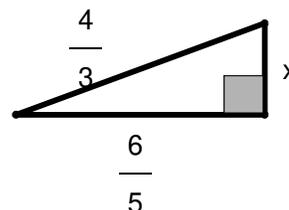
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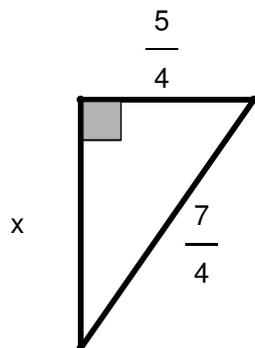
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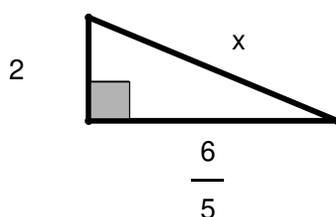
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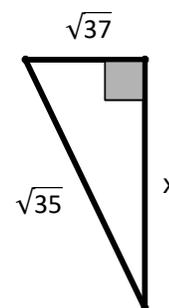
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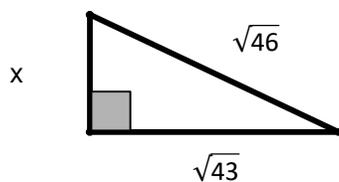
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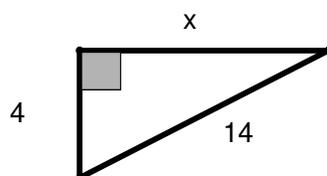
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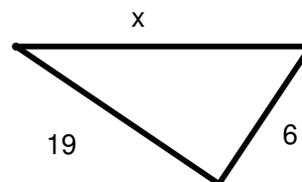
3



6



9



Théorème de Pythagore - Solutions

1 Comme le triangle est rectangle,

$$x^2 = \sqrt{34}^2 + \sqrt{11}^2$$

$$\Leftrightarrow x^2 = 34 + 11$$

$$\Leftrightarrow x^2 = 45$$

$$\Leftrightarrow x = \sqrt{45} = 3\sqrt{5} \approx 6.71$$

2 Comme le triangle est rectangle,

$$\frac{7^2}{4^2} = x^2 + \frac{5^2}{4^2}$$

$$\Leftrightarrow \frac{49}{16} = x^2 + \frac{25}{16}$$

$$\Leftrightarrow x^2 = \frac{3}{2}$$

$$\Leftrightarrow x = \frac{\sqrt{3}}{\sqrt{2}} = \frac{\sqrt{6}}{2}$$

$$\Leftrightarrow x \approx 1.22$$

3 Comme le triangle est rectangle,

$$\sqrt{46}^2 = x^2 + \sqrt{43}^2$$

$$\Leftrightarrow 46 = x^2 + 43$$

$$\Leftrightarrow 3 = x^2$$

$$\Leftrightarrow x = \sqrt{3} \approx 1.73$$

4 Comme le triangle est rectangle,

$$x^2 = 4^2 + 6^2$$

$$\Leftrightarrow x^2 = 52$$

$$\Leftrightarrow x = \sqrt{52} = 2\sqrt{13} \approx 7.21$$

5 Comme le triangle est rectangle,

$$x^2 = \frac{6^2}{5^2} + 2^2$$

$$\Leftrightarrow x^2 = \frac{36}{25} + 4$$

$$\Leftrightarrow x^2 = \frac{136}{25}$$

$$\Leftrightarrow x = \frac{\sqrt{136}}{\sqrt{25}} = \frac{2\sqrt{34}}{5}$$

$$\Leftrightarrow x \approx 2.33$$

6 Comme le triangle est rectangle,

$$14^2 = x^2 + 4^2$$

$$\Leftrightarrow 180 = x^2$$

$$\Leftrightarrow x = \sqrt{180} = 6\sqrt{5} \approx 13.42$$

7 Comme le triangle est rectangle,

$$\frac{4^2}{3^2} = x^2 + \frac{6^2}{5^2}$$

$$\Leftrightarrow \frac{16}{9} = x^2 + \frac{36}{25}$$

$$\Leftrightarrow x^2 = \frac{76}{225}$$

$$\Leftrightarrow x = \frac{\sqrt{76}}{\sqrt{225}} = \frac{2\sqrt{19}}{15}$$

$$\Leftrightarrow x \approx 0.58$$

8 Comme le triangle est rectangle,

$$\sqrt{35}^2 = x^2 + \sqrt{37}^2$$

$$\Leftrightarrow 35 = x^2 + 37$$

$$\Leftrightarrow -2 = x^2$$

$$\Leftrightarrow x = /$$

Impossible car l'hypoténuse n'est pas le plus grand côté.

9 On ne sait pas si le triangle est bien

rectangle.

Donc, l'exercice est impossible.