

NAME _____

DATE _____

PYTHAGORAS: Worksheet 4

Find the missing sides to the nearest tenth. a and b are legs. c is the hypotenuse.

1) $a = 24$ $b = 32$ $c = ?$

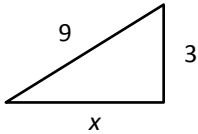
2) $a = 8$ $b = ?$ $c = 10$

3) $a = 2$ $b = 3$ $c = ?$

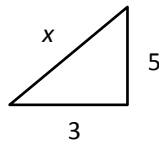
4) $a = ?$ $b = 6$ $c = 14$

Find the missing side (x) in each right triangle to the nearest tenth. Triangles are not to scale.

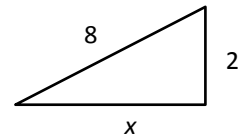
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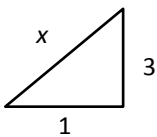
6)



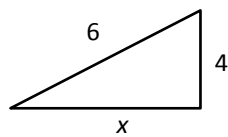
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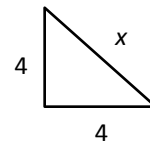
8)



9)



10)



KEY

PYTHAGORAS: Worksheet 4

Find the missing sides to the nearest tenth. a and b are legs. c is the hypotenuse.

1) $a = 24$ $b = 32$ $c = ?$

$$\begin{aligned} 24^2 + 32^2 &= c^2 \\ 576 + 1024 &= c^2 \\ 1600 &= c^2 \\ \sqrt{1600} &= c \\ c &= 40 \end{aligned}$$

2) $a = 8$ $b = ?$ $c = 10$

$$\begin{aligned} 8^2 + b^2 &= 10^2 \\ 64 + b^2 &= 100 \\ b^2 &= 100 - 64 \\ b^2 &= 36 \\ b &= \sqrt{36} \\ b &= 6 \end{aligned}$$

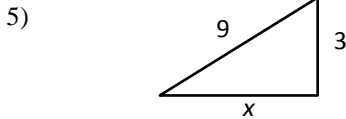
3) $a = 2$ $b = 3$ $c = ?$

$$\begin{aligned} 2^2 + 3^2 &= c^2 \\ 4 + 9 &= c^2 \\ 13 &= c^2 \\ \sqrt{13} &= c \\ c &= 3.6 \end{aligned}$$

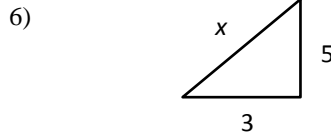
4) $a = ?$ $b = 6$ $c = 14$

$$\begin{aligned} a^2 + 6^2 &= 14^2 \\ a^2 + 36 &= 196 \\ a^2 &= 196 - 36 \\ a^2 &= 160 \\ a &= \sqrt{160} \\ a &= 12.6 \end{aligned}$$

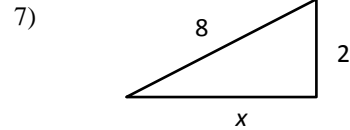
Find the missing side (x) in each right triangle to the nearest tenth. Triangles are not to scale.



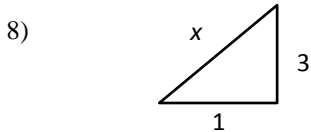
$$\begin{aligned} x^2 + 3^2 &= 9^2 \\ x^2 + 9 &= 81 \\ x^2 &= 81 - 9 \\ x^2 &= 72 \\ x &= \sqrt{72} \\ x &= 8.5 \end{aligned}$$



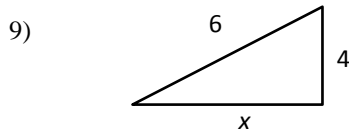
$$\begin{aligned} 3^2 + x^2 &= 5^2 \\ 9 + 25 &= x^2 \\ 34 &= x^2 \\ \sqrt{34} &= x \\ x &= 5.8 \end{aligned}$$



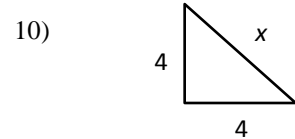
$$\begin{aligned} x^2 + 2^2 &= 8^2 \\ x^2 + 4 &= 64 \\ x^2 &= 64 - 4 \\ x^2 &= 60 \\ x &= \sqrt{60} \\ x &= 7.7 \end{aligned}$$



$$\begin{aligned} 1^2 + 3^2 &= x^2 \\ 1 + 9 &= x^2 \\ 10 &= x^2 \\ \sqrt{10} &= x \\ x &= 3.2 \end{aligned}$$



$$\begin{aligned} x^2 + 4^2 &= 6^2 \\ x^2 + 16 &= 36 \\ x^2 &= 36 - 16 \\ x^2 &= 20 \\ x &= \sqrt{20} \\ x &= 4.5 \end{aligned}$$



$$\begin{aligned} 4^2 + 4^2 &= x^2 \\ 16 + 16 &= x^2 \\ 32 &= x^2 \\ \sqrt{32} &= x \\ x &= 5.7 \end{aligned}$$