Pythagoras’ Theorem

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“For any right-angled triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.”

\[ a^2 + b^2 = c^2 \]

So, to find the hypotenuse of a right-angled triangle;

\[ \begin{array}{c}
5 \\
\text{?} \\
8
\end{array} \]

We know \( a^2 + b^2 = c^2 \), so \( 5^2 + 8^2 = c^2 \)

\[ 25 + 64 = c^2 \]

\[ 89 = c^2 \]

\[ 9.4 \text{ (1dp)} = c \]

Find the hypotenuse of these triangles yourself:

1. \[ \begin{array}{c}
6 \\
\text{?} \\
11
\end{array} \]

\[ \_\_\_\_^2 + \_\_\_\_^2 = c^2 \]

\[ \_\_\_\_ + \_\_\_\_ = c^2 \]

\[ \_\_\_\_ = c^2 \]

\[ \_\_\_\_ = c \]

2. \[ \begin{array}{c}
10 \\
\text{?} \\
14
\end{array} \]

\[ \_\_\_\_ + \_\_\_\_ = \_\_\_\_ \]

\[ \_\_\_\_ + \_\_\_\_ = \_\_\_\_ \]

\[ \_\_\_\_ = \_\_\_\_ \]

\[ \_\_\_\_ = \_\_\_\_ \]
3. \[ \text{?} \]

4. \[ ? \]

5. \[ ? \]

6. \[ ? \]

\[ \text{?}^2 + \text{?}^2 = c^2 \]

\[ \text{?}^2 + \text{?}^2 = c^2 \]

\[ \text{?} = c \]