

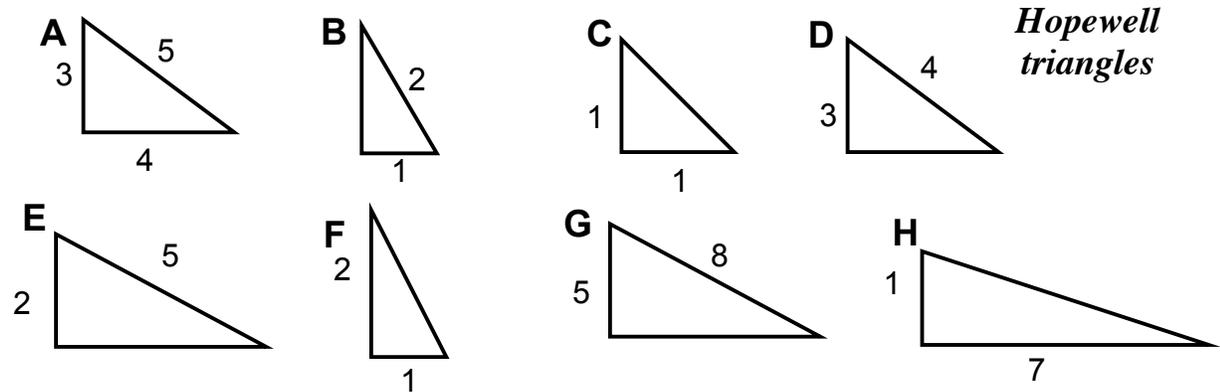
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# Hopewell Geometry

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The Hopewell people were Native Americans whose culture flourished in the central Ohio Valley about 2000 years ago.

The Hopewell people constructed earthworks using right triangles, including those below.



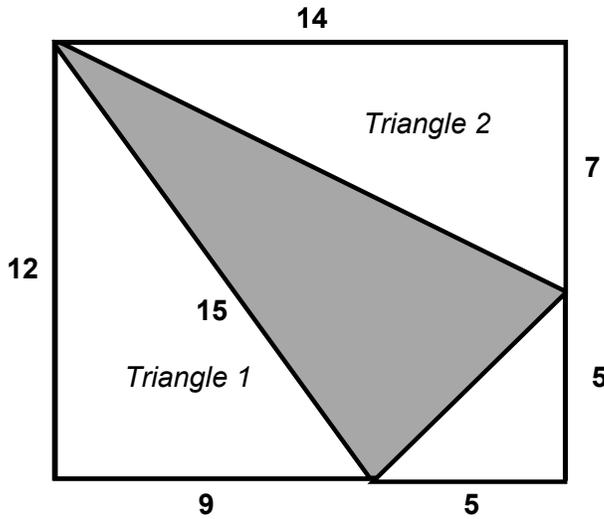
1. What is the length of the hypotenuse of Triangle H?  
Give your answer correct to one decimal place.  
Show your calculations.

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2. What is the size of the smallest angle in Triangle A?  
Give your answer correct to one decimal place.  
Show your calculations.

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The diagram on the next page shows the layout of some Hopewell earthworks. The centers of the Newark Octagon, the Newark Square and the Great Circle were at the corners of the shaded triangle.



Not drawn to scale

The three right triangles surrounding the shaded triangle form a rectangle measuring 12 units by 14 units.

Each of these three right triangles is similar to one of the Hopewell triangles on the previous page.

For example, Triangle 3 above is similar to Hopewell Triangle C.

3. Which Hopewell triangle is similar to Triangle 1? \_\_\_\_\_

Explain how you decided.

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4. Is the shaded triangle a right triangle? \_\_\_\_\_

Prove your answer.

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