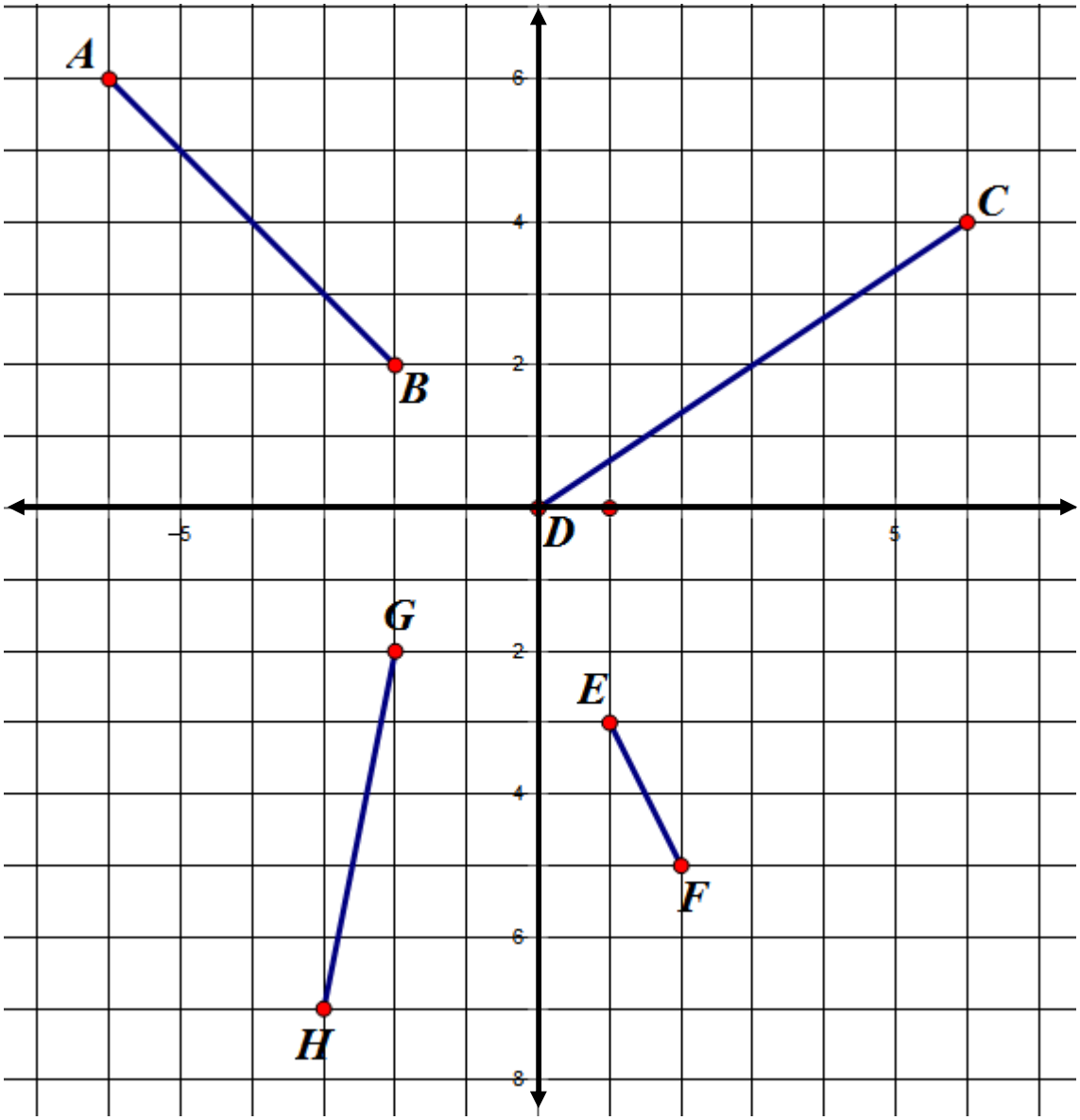
Name_____ Hr Date_____ Pyth1.4

The Theorem. $c = \sqrt{a^2 + b^2}$



The Pythagorean Theorem is used to find the length of a line segment on a grid, or the hypotenuse of a right triangle.

Length of $\overline{AB}$. If $\overline{AB}$ is the hypotenuse of a right triangle, find the lengths of the legs. Complete the triangle. The vertical leg *a*, is 4 units. The horizontal leg *b*, is 4 units. Square both legs and add them together. $4^2 + 4^2 = 16 + 16 = 32$. Now take the square root of 32 and you get ≈ 5.659. Notice how the answer is NOT a whole number.

Length of $\overline{CD}$ =_____ Length of $\overline{GH}$ =_____

Length of $\overline{EF}$ =_____