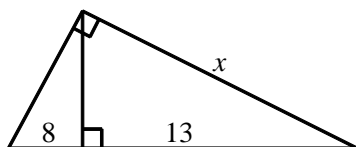


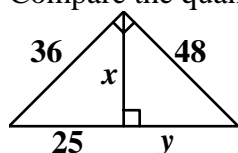
NAME: \_\_\_\_\_

*P.I. G.G.47: Investigate, justify, and apply theorems about mean proportionality: the altitude to the hypotenuse of a right triangle is the mean proportional between the two segments along the hypotenuse; and the altitude to the hypotenuse of a right triangle divides the hypotenuse so that either leg of the right triangle is the mean proportional between the hypotenuse and segment of the hypotenuse adjacent to that leg*

1. Find the value of  $x$ . [A]  $\sqrt{273}$  [B]  $2\sqrt{26}$  [C]  $2\sqrt{42}$  [D]  $\sqrt{21}$



2. Compare the quantity in Column A with the quantity in Column B.



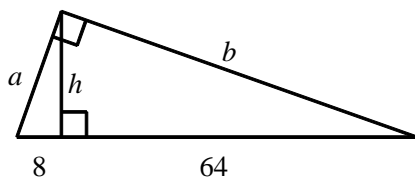
Column A      Column B

$x$

$y$

- [A] The quantity in Column A is greater. [B] The quantity in Column B is greater.  
[C] The two quantities are equal.  
[D] The relationship cannot be determined on the basis of the information supplied.

3. Find  $a$ ,  $b$ , and  $h$ .



4. Deawn is laying computer cables in the ceiling of a large building. A 200-ft cable to office B1 and a 480-ft cable to office B2 meet at a right angle. Offices B1 and B2 are both on the outer wall of the building. If Deawn lays one cable from where the first two cables meet directly to the outer wall, how far will it be from there to office B1? Round your answer to the nearest tenth.

- [A] 76.9 ft [B] 88.7 ft [C] 260.0 ft [D] 520.0 ft

[1] A

[2] B

[3]  $a = 24, b = 48\sqrt{2}, h = 16\sqrt{2}$

[4] A