

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

*G.G.48: Investigate, justify, and apply the Pythagorean Theorem and its converse*

1. 060009a, P.I. G.G.48

The set of integers  $\{3,4,5\}$  is a Pythagorean triple. Another such set is

- [A]  $\{8,15,17\}$                       [B]  $\{6,7,8\}$   
[C]  $\{6,12,13\}$                      [D]  $\{6,8,12\}$

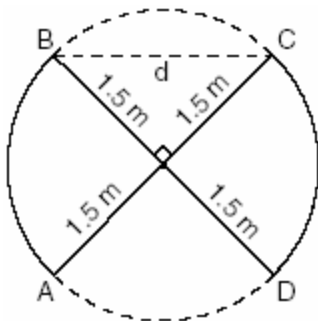
2. 010827a, P.I. G.G.48

Which set of numbers could be the lengths of the sides of a right triangle?

- [A]  $\{4,7,8\}$                         [B]  $\{12,16,30\}$   
[C]  $\{10,24,26\}$                    [D]  $\{3,4,6\}$

3. 010403b, P.I. G.G.48

An overhead view of a revolving door is shown in the accompanying diagram. Each panel is 1.5 meters wide.

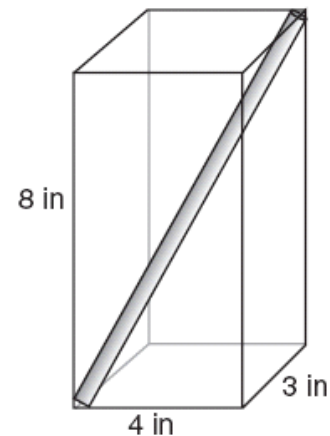


What is the approximate width of  $d$ , the opening from  $B$  to  $C$ ?

- [A] 1.73 m                            [B] 2.12 m  
[C] 1.50 m                            [D] 3.00 m

4. 060334a, G.G.48

A straw is placed into a rectangular box that is 3 inches by 4 inches by 8 inches, as shown in the accompanying diagram. If the straw fits exactly into the box diagonally from the bottom left front corner to the top right back corner, how long is the straw, to the *nearest tenth of an inch*?



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[1] A \_\_\_\_\_

[2] C \_\_\_\_\_

[3] B \_\_\_\_\_

[4] 9.4, and appropriate work is shown, such as the use of the Pythagorean theorem.

[3] Appropriate work is shown, but one computational or rounding error is made.

[2] Appropriate work is shown, but more than one computational or rounding error is made.

or [2] Appropriate work is shown, but one conceptual error is made.

or [2] An incorrect diagonal of the base is found, but an appropriate solution is found.

or [2] Only the diagonal of the base is found correctly, but appropriate work is shown, such as  $3^2 + 4^2 = d^2$  or use of 3–4–5 right triangles.

[1] Appropriate work is shown, but one conceptual error and one computational or rounding error are made.

or [1] The Pythagorean theorem is used to find the length of the straw, but the appropriate legs are not used.

or [1] 9.4, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[4] \_\_\_\_\_  
incorrect procedure.