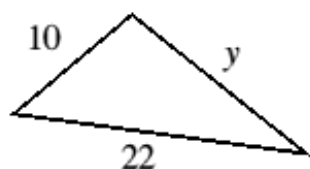




14. The triangle shown has an area of 88 square units. What is the value of  $y$ ?

A 17.6    B  $2\sqrt{46}$     C  $6\sqrt{10}$     D  $13\sqrt{2}$     E  $8\sqrt{5}$

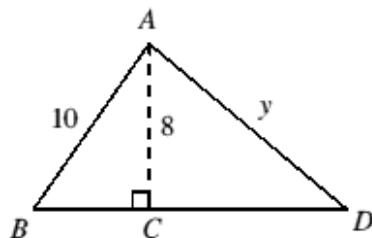


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14. E



$$y^2 = 8^2 + 16^2 = 8^2(1^2 + 2^2) = 8^2 \times 5. \text{ So } y = 8\sqrt{5}.$$

Let the vertices of the triangle be labelled  $A$ ,  $B$  and  $D$  as shown. Let the point where the perpendicular from  $A$  meets  $BD$  be labelled  $C$ . The area of triangle  $ABD$  is given as 88. As  $BD$  is 22,  $AC$  must be 8. Considering triangle  $ABC$  and using Pythagoras' Theorem gives  $BC = 6$ . The remainder of the base  $CD$  is then  $22 - 6 = 16$ . Considering triangle  $ACD$  and using Pythagoras' Theorem again gives