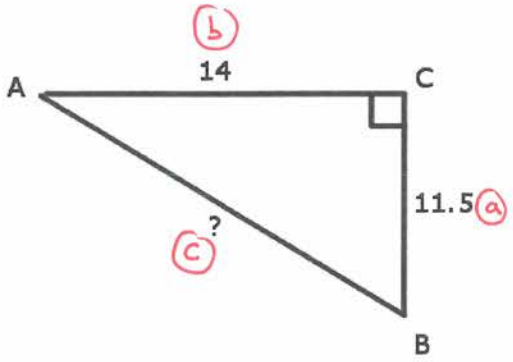
1. Given the right triangle below, determine the distance of line segment $\overline{AB}$ Round your final answer to the nearest tenth.



$a^2 + b^2 = c^2$

$11.5^2 + 14^2 = c^2$

$132.25 + 196 = c^2$

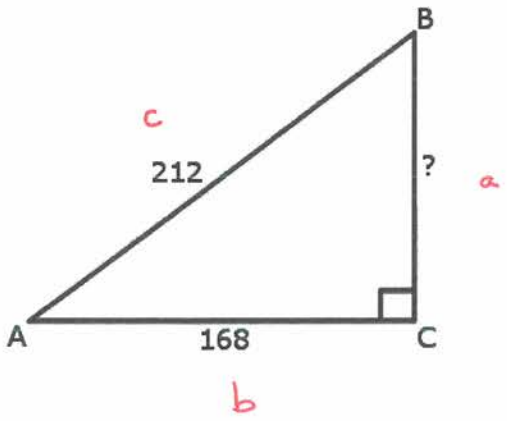
$\sqrt{328.25} = \sqrt{c^2}$

$18.118 = c$

$18.1 \approx c$

ANSWER:

2. Given the right triangle below, determine the distance of line segment $\overline{BC}$
Round your final answer to the nearest tenth.



$a^2 + b^2 = c^2$

$a^2 + 168^2 = 212^2$

$a^2 + 28\,224 = 44\,944$

$-\ 28\,224 \quad -28\,224$

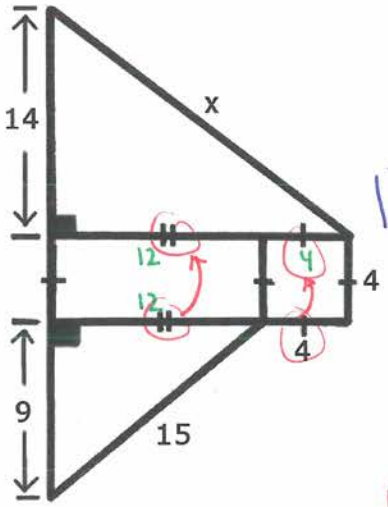
$\sqrt{a^2} = \sqrt{16\,720}$

$a = 129.3058$

$a \approx 129.3$

ANSWER:

3. Given the complex shape below, determine the value of 'x'
Round your final answer to the nearest tenth.



STEP 1

(b)

(a) 9 15

(c)

$a^2 + b^2 = c^2$

$9^2 + b^2 = 15^2$

$81 + b^2 = 225$

$-81 \quad -81$

$\sqrt{b^2} = \sqrt{144}$

$b = 12$

STEP 2 $12 + 4 = 16$

STEP 3

(a) 14 (c) 16

(b)

$a^2 + b^2 = c^2$

$14^2 + 16^2 = c^2$

$196 + 256 = c^2$

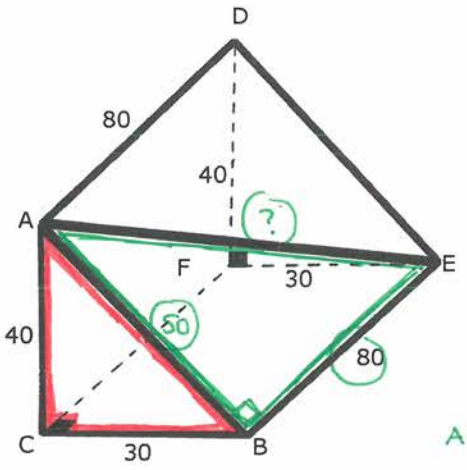
$\sqrt{452} = \sqrt{c^2}$

$21.260 = c$

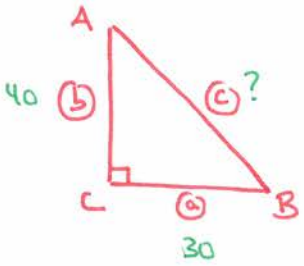
$21.3 \approx c$

ANSWER:

4. Given the right triangular prism below, determine the distance of line segment $\overline{AE}$ Round your final answer to the nearest integer.



STEP 1



$a^2 + b^2 = c^2$

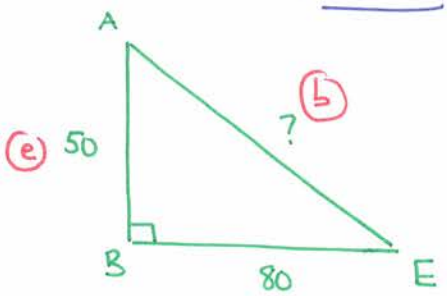
$30^2 + 40^2 = c^2$

$900 + 1600 = c^2$

$\sqrt{2500} = \sqrt{c^2}$

$50 = c$

STEP 2



$a^2 + e^2 = b^2$

$80^2 + 50^2 = b^2$

$6400 + 2500 = b^2$

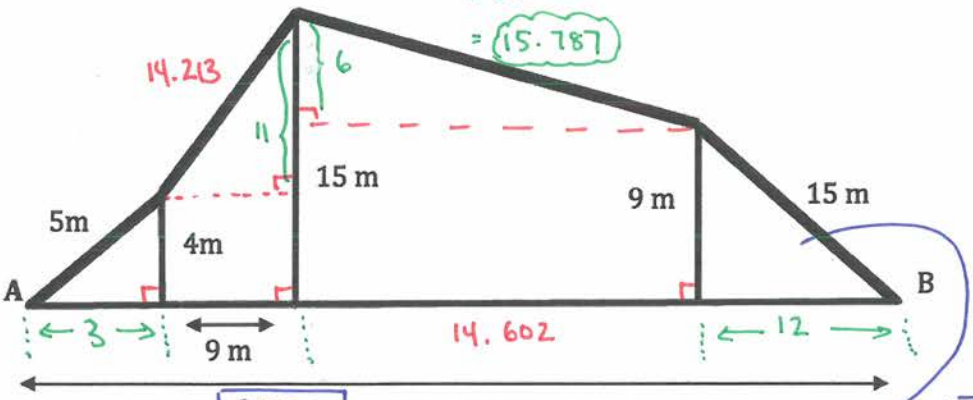
$\sqrt{8900} = \sqrt{b^2}$

$94.3398 = b$

$94 \approx b$

ANSWER:

5. Max is attaching a cable from point A to B, by going along the top of three different posts.
The cable is 50 m long.
What is the distance along the ground from point A to point B?
Round your answer to the nearest tenth of a meter.



= 50 - 5 - 14.213 - 15
= 15.787

STEP 1

(c) 5, 4 (a), ? (b)

$a^2 + b^2 = c^2$

$4^2 + b^2 = 5^2$

$16 + b^2 = 25$

$-16 \quad -16$

$\sqrt{b^2} = \sqrt{9}$

$b = 3$

STEP 2

(c) ?, = 15 - 4 = 11 m (b), 9m (a)

$a^2 + b^2 = c^2$

$9^2 + 11^2 = c^2$

$81 + 121 = c^2$

$\sqrt{202} = \sqrt{c^2}$

$14.213 = c$

STEP 3

(b) 9, 15 (c), (a)

$a^2 + b^2 = c^2$

$a^2 + 9^2 = 15^2$

$a^2 + 81 = 225$

$-81 \quad -81$

$\sqrt{a^2} = \sqrt{144}$

$a = 12$

STEP 4

= 15 - 9 = 6m (a)

= 50 - 5 - 14.213 - 15
(c) = (15.787)

(b)

$a^2 + b^2 = c^2$

STEP 5

$6^2 + b^2 = 15.787^2$

$36 + b^2 = 249.229$

$-36 \quad -36$

$\sqrt{b^2} = \sqrt{213.229}$

$b = 14.602$

STEP 6

$m\overline{AB} = 3 + 9 + 14.602 + 12$

$m\overline{AB} = 38.602$

$m\overline{AB} = 38.6$ m.

ANSWER