Activity 44 IM 2

Legibly write your Student ID number and period number on every page. Do NOT write your name.

Student ID (######)	Date (MM/DD/YYYY)	Period (#)
000000	03/15/2024	0

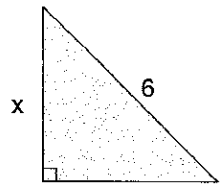
Guided Learning

It is possible for the length of a side to not be a whole number.

Independent Learning

Use the given right triangle to write the correct equation. Then solve for x. Write the exact value; do not write a decimal approximation.

1



$6^2 = x^2 + 3^2$

$36 = x^2 + 9$

$-9 \quad -9$

$\sqrt{27} = \sqrt{x^2}$

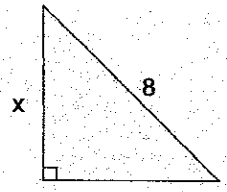
$3\sqrt{3} = |x|$

$x = \{-3\sqrt{3}, 3\sqrt{3}\}$

$x \in R \mid x > 0$

$\therefore x = \{3\sqrt{3}\}$

2



$8^2 = x^2 + 4^2$

$64 = x^2 + 16$

$-16 \quad -16$

$\sqrt{48} = \sqrt{x^2}$

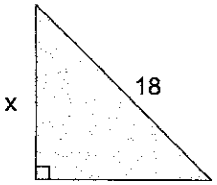
$4\sqrt{3} = |x|$

$x = \{-4\sqrt{3}, 4\sqrt{3}\}$

$x \in R \mid x > 0$

$\therefore x = \{4\sqrt{3}\}$

3



$18^2 = x^2 + 9^2$

$324 = x^2 + 81$

$-81 \quad -81$

$\sqrt{243} = \sqrt{x^2}$

$9\sqrt{3} = |x|$

$x = \{-9\sqrt{3}, 9\sqrt{3}\}$

$x \in R \mid x > 0$

$\therefore x = \{9\sqrt{3}\}$

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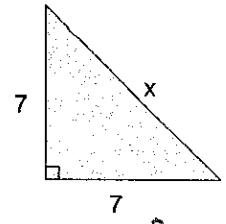
4



$x^2 = 7^2 + 7^2$

$x^2 = 49 + 49$

$\sqrt{x^2} = \sqrt{98}$

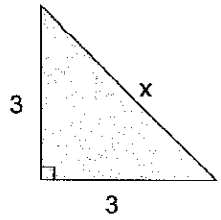
$|x| = 7\sqrt{2}$

$x = \{-7\sqrt{2}, 7\sqrt{2}\}$

$x \in R \mid x > 0$

$\therefore x = \{7\sqrt{2}\}$

5



$x^2 = 3^2 + 3^2$

$x^2 = 9 + 9$

$\sqrt{x^2} = \sqrt{18}$

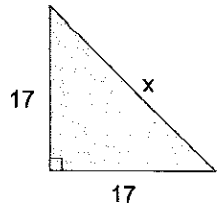
$|x| = 3\sqrt{2}$

$x = \{-3\sqrt{2}, 3\sqrt{2}\}$

$x \in R \mid x > 0$

$\therefore x = \{3\sqrt{2}\}$

6



$x^2 = 17^2 + 17^2$

$x^2 = 289 + 289$

$\sqrt{x^2} = \sqrt{578}$

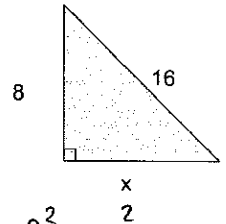
$|x| = 17\sqrt{2}$

$x = \{-17\sqrt{2}, 17\sqrt{2}\}$

$x \in R \mid x > 0$

$\therefore x = \{17\sqrt{2}\}$

7



$16^2 = 8^2 + x^2$

$256 = 64 + x^2$

$\sqrt{192} = \sqrt{x^2}$

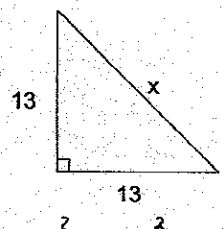
$8\sqrt{3} = |x|$

$x = \{-8\sqrt{3}, 8\sqrt{3}\}$

$x \in R \mid x > 0$

$\therefore x = \{8\sqrt{3}\}$

8



$x^2 = 13^2 + 13^2$

$x^2 = 169 + 169$

$\sqrt{x^2} = \sqrt{338}$

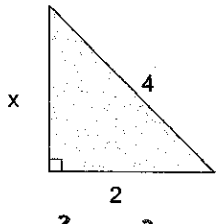
$|x| = 13\sqrt{2}$

$x = \{-13\sqrt{2}, 13\sqrt{2}\}$

$x \in R \mid x > 0$

$\therefore x = \{13\sqrt{2}\}$

9



$4^2 = x^2 + 2^2$

$16 = x^2 + 4$

$-4 \quad -4$

$\sqrt{12} = \sqrt{x^2}$

$2\sqrt{3} = |x|$

$x = \{-2\sqrt{3}, 2\sqrt{3}\}$

$x \in R \mid x > 0$

$\therefore x = \{2\sqrt{3}\}$

THIS IS THE END OF THE ACTIVITY