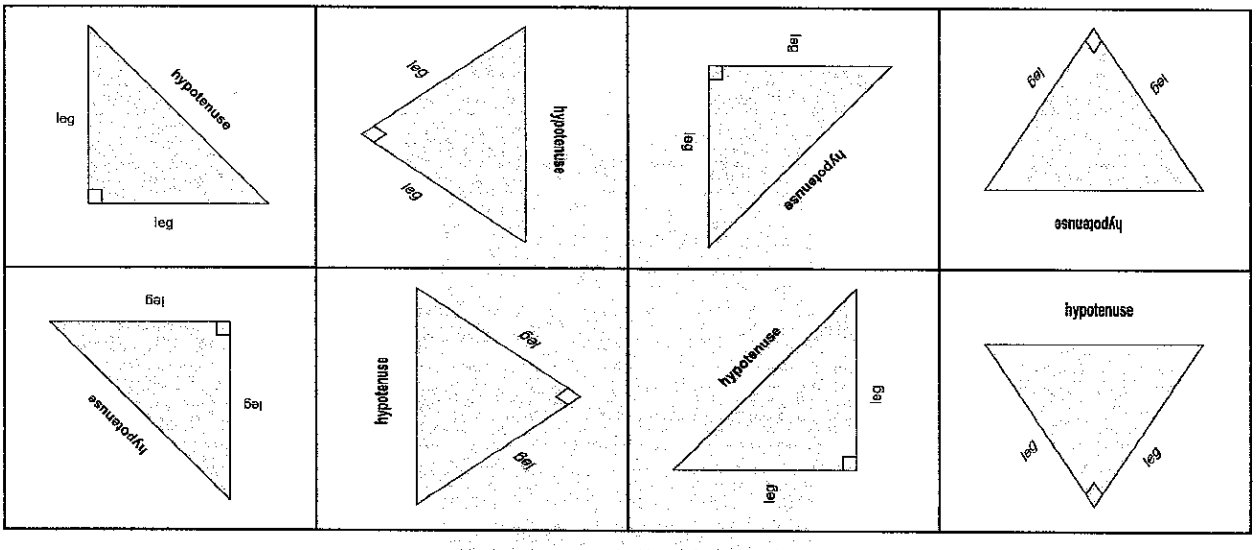
Activity 43

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	03/14/2024	0

Guided Learning

A right triangle is a triangle that has a right angle. Each side that is touching the right angle is called a leg. The side that is not touching the right angle is called the **hypotenuse**.



Independent Learning

Use the given right triangle to write the correct equation. Then solve for x.

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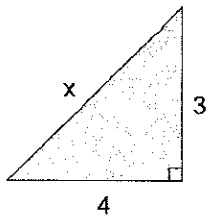
1



$x^2 = 4^2 + 3^2$

$x^2 = 16 + 9$

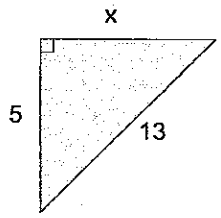
$\sqrt{x^2} = \sqrt{25}$

$|x| = 5$ $\quad x = \{-5, 5\}$

$x \in R \mid x > 0$

$\therefore x = \{5\}$

2



$13^2 = x^2 + 5^2$

$169 = x^2 + 25$

$-25 \quad -25$

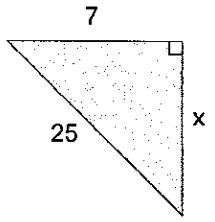
$\sqrt{144} = \sqrt{x^2}$

$12 = |x|$ $\quad x = \{-12, 12\}$

$x \in R \mid x > 0$

$\therefore x = \{12\}$

3



$25^2 = 7^2 + x^2$

$625 = 49 + x^2$

$-49 \quad -49$

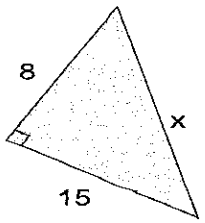
$\sqrt{576} = \sqrt{x^2}$

$24 = |x|$ $\quad x = \{-24, 24\}$

$x \in R \mid x > 0$

$\therefore x = \{24\}$

4



$x^2 = 8^2 + 15^2$

$x^2 = 64 + 225$

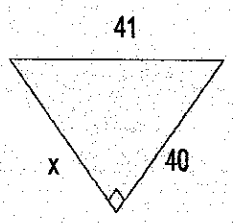
$\sqrt{x^2} = \sqrt{289}$

$|x| = 17$ $\quad x = \{-17, 17\}$

$x \in R \mid x > 0$

$\therefore x = \{17\}$

5



$41^2 = x^2 + 40^2$

$1681 = x^2 + 1600$

$-1600 \quad -1600$

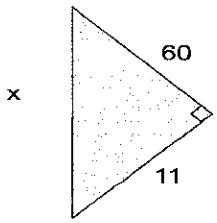
$\sqrt{81} = \sqrt{x^2}$

$9 = |x|$ $\quad x = \{-9, 9\}$

$x \in R \mid x > 0$

$\therefore x = \{9\}$

6



$x^2 = 60^2 + 11^2$

$x^2 = 3600 + 121$

$\sqrt{x^2} = \sqrt{3721}$

$|x| = 61$ $\quad x = \{-61, 61\}$

$x \in R \mid x > 0$

$\therefore x = \{61\}$

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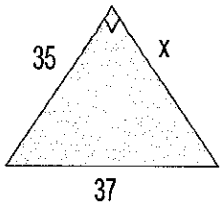
7



$37^2 = 35^2 + x^2$

$1369 = 1225 + x^2$

$-1225 \quad -1225$

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

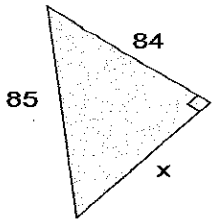
$12 = |x|$

$x = \{-12, 12\}$

$x \in R \mid x > 0$

$\therefore x = \{12\}$

8



$85^2 = 84^2 + x^2$

$7225 = 7056 + x^2$

$-7056 \quad -7056$

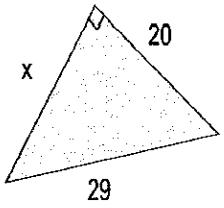
$\sqrt{169} = \sqrt{x^2}$

$13 = |x| \quad x = \{-13, 13\}$

$x \in R \mid x > 0$

$\therefore x = \{13\}$

9



$29^2 = x^2 + 20^2$

$841 = x^2 + 400$

$-400 \quad -400$

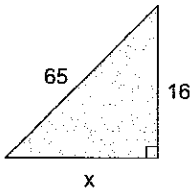
$\sqrt{441} = \sqrt{x^2}$

$21 = |x| \quad x = \{-21, 21\}$

$x \in R \mid x > 0$

$\therefore x = \{21\}$

10



$65^2 = x^2 + 16^2$

$4225 = x^2 + 256$

$-256 \quad -256$

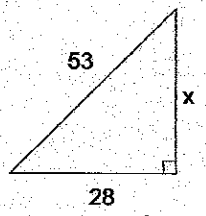
$\sqrt{3969} = \sqrt{x^2}$

$63 = |x| \quad x = \{-63, 63\}$

$x \in R \mid x > 0$

$\therefore x = \{63\}$

11



$53^2 = 28^2 + x^2$

$2809 = 784 + x^2$

$-784 \quad -784$

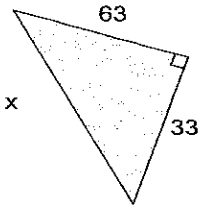
$\sqrt{2025} = \sqrt{x^2}$

$45 = |x| \quad x = \{-45, 45\}$

$x \in R \mid x > 0$

$\therefore x = \{45\}$

12



$x^2 = 63^2 + 33^2$

$x^2 = 3969 + 1089$

$\sqrt{x^2} = \sqrt{5058}$

$|x| = 3\sqrt{562}$

$x = \{-3\sqrt{562}, 3\sqrt{562}\}$

$x \in R \mid x > 0$

$\therefore x = \{3\sqrt{562}\}$

THIS IS THE END OF THE ACTIVITY