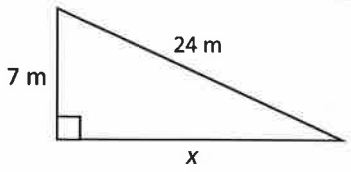
Mastery Algebra 1 Sample Mastery Quiz 10-1 Name: KEY

Per: ____ ☐

10-1 The Pythagorean Theorem

Find the missing side length in each triangle. If necessary, round to the nearest tenth.

1.



$7^2 + x^2 = 24^2$

$49 + x^2 = 576$

$-49 \quad -49$

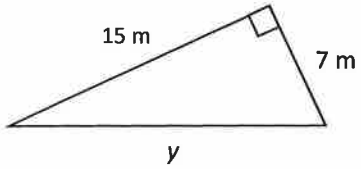
$x^2 = 527$

$x = \sqrt{527}$

$x \approx 22.95$

$x \approx 23.0$ m

2.



$15^2 + 7^2 = y^2$

$225 + 49 = y^2$

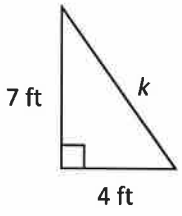
$274 = y^2$

$\sqrt{274} = y$

16.55

$y \approx 16.6$ m

3.



$7^2 + 4^2 = k^2$

$49 + 16 = k^2$

$65 = k^2$

$\sqrt{65} = k$

$k \approx 8.06$

$k \approx 8.1$ ft

Ans

4.

$n^2 + 6^2 = 7.5^2$

$n^2 + 36 = 56.25$

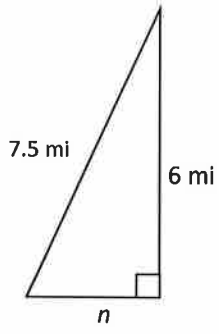
$-36 \quad -36$

$n^2 = 20.25$

$n = \sqrt{20.25}$

$n \approx 4.5$

$n = 4.5$ mi



→ 5. Is it possible for the lengths 25, 60, and 65 to be the side lengths for a right triangle? Show how you know.

$25^2 + 60^2 = 65^2$?

$625 + 3600 = 4225$

$4225 = 4225$ ✓

Yes, 25, 60, and 65 are the side lengths for a right triangle.