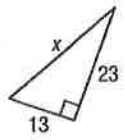
NAME _____ DATE _____ PERIOD _____

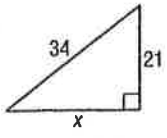
7-2 Practice

The Pythagorean Theorem and Its Converse

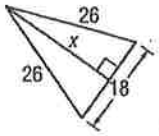
Find x.

1. 

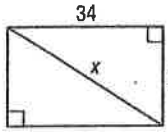
$\sqrt{698} = 26.4$

2. 

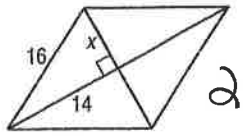
$\sqrt{715} \approx 26.7$

3. 

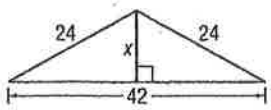
$\sqrt{595} = 24.4$

4. 

$2\sqrt{410}$
$\sqrt{1640} = 40.5$

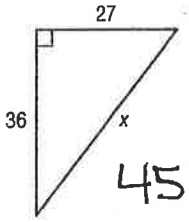
5. 

$2\sqrt{15}$
$\sqrt{60} = 7.7$

6. 

$3\sqrt{15}$
$\sqrt{135} = 11.6$

Use a Pythagorean Triple to find x.

7. 

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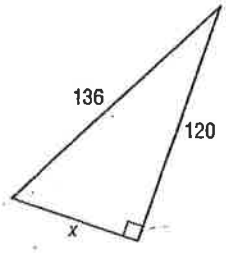
8. 

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Determine whether $\triangle GHI$ is a right triangle for the given vertices. Explain.

9. $G(2, 7), H(3, 6), I(-4, -1)$

yes $GH = \sqrt{2}$ $HI = \sqrt{98}$ $IG = \sqrt{100}$

$(\sqrt{2})^2 + (\sqrt{98})^2 = (\sqrt{100})^2$

$2 + 98 = 100$

10. $G(-6, 2), H(1, 12), I(-2, 1)$

no $GH = \sqrt{149}$ $HI = \sqrt{130}$ $IG = \sqrt{17}$

$(\sqrt{130})^2 + (\sqrt{17})^2 \neq \sqrt{149}^2$

$130 + 17 \neq 149$ $147 \neq 149$

Determine whether each set of numbers can be measure of the sides of a triangle. If so, classify the triangle as *acute, obtuse, or right*. Justify your answer.

11. 10, 11, 20 $20^2 \_\_ 10^2 + 11^2$

$400 > 100 + 121$

$400 > 221$ OBTUSE

12. 12, 14, 49

not $\triangle$

$12 + 14 < 49$

13. $5\sqrt{2}$, 10, 11 $11^2 \_\_ (5\sqrt{2})^2 + 10$

$121 < 50 + 100$

$121 < 150$

Acute

Determine whether each set of measures can be the measures of the sides of a right triangle. Then state whether they form a Pythagorean triple.

14. 9, 40, 41

yes, yes

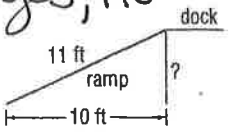
15. 7, 28, 29

no, no

16. $\frac{9}{5}, \frac{12}{5}, 3$

yes, no

17. **CONSTRUCTION** The bottom end of a ramp at a warehouse is 10 feet from the base of the main dock and is 11 feet long. How high is the dock?



About 4.6 ft.