

10.1 Pythagorean Theorem HW – Day 1
 Geometry 3313

Name Key
 Date _____ Period _____

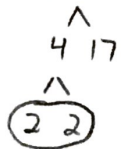
Write each of the square roots below in simplest radical form.

1. $\sqrt{8}$



$2\sqrt{2}$

2. $\sqrt{68}$



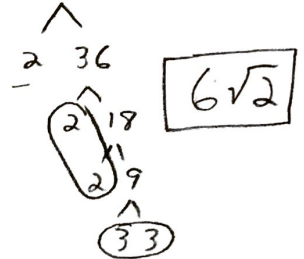
$2\sqrt{17}$

3. $\sqrt{75}$



$5\sqrt{3}$

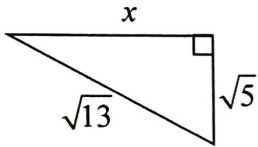
4. $\sqrt{72}$



$6\sqrt{2}$

Find the missing side of each right triangle below. Be sure to put your answers in simplest radical form.

5.



$\sqrt{5}^2 + x^2 = \sqrt{13}^2$

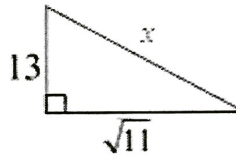
$5 + x^2 = 13$

$x^2 = 8$

$x = \sqrt{8}$

$x = \underline{2\sqrt{2}}$

6.



$\sqrt{11}^2 + 13^2 = x^2$

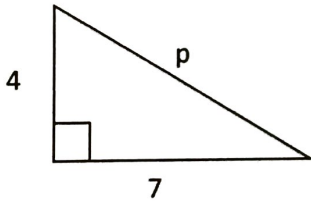
$11 + 13 = x^2$

$24 = x^2$

$\sqrt{24} = x$

$x = \underline{2\sqrt{6}}$

7.



$4^2 + 7^2 = p^2$

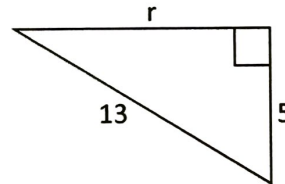
$16 + 49 = p^2$

$65 = p^2$

$\sqrt{65} = p$

$p = \underline{\sqrt{65}}$

8.



$5^2 + r^2 = 13^2$

$25 + r^2 = 169$

$r^2 = 144$

$r = 12$

$r = \underline{12}$

9. Jeff throws a pass from point A to a receiver at point B. How long was the pass (round to the nearest tenth)?

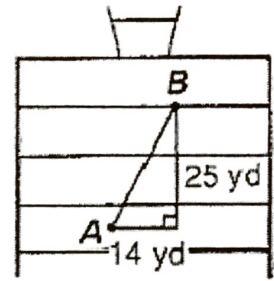
$$14^2 + 25^2 = AB^2$$

$$196 + 625 = AB^2$$

$$821 = AB^2$$

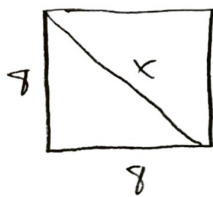
$$\sqrt{821} = AB$$

$$28.7 \approx AB$$



About 28.7 yards

10. The perimeter of a square is 32. Find the length of the diagonals. Draw a picture to help you solve.

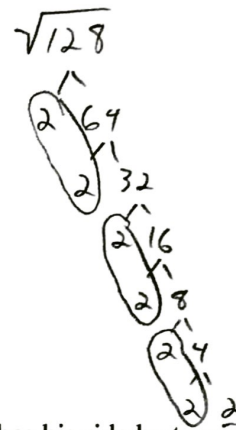


$$8^2 + 8^2 = x^2$$

$$64 + 64 = x^2$$

$$128 = x^2$$

$$\sqrt{128} = x$$



$8\sqrt{2}$

11. Danny starts out riding his bikes 10 miles due West and then finishes his ride by turning and heading 5 miles due North. About how many miles is Danny from his starting point (to the nearest tenth)?



$$5^2 + 10^2 = x^2$$

$$25 + 100 = x^2$$

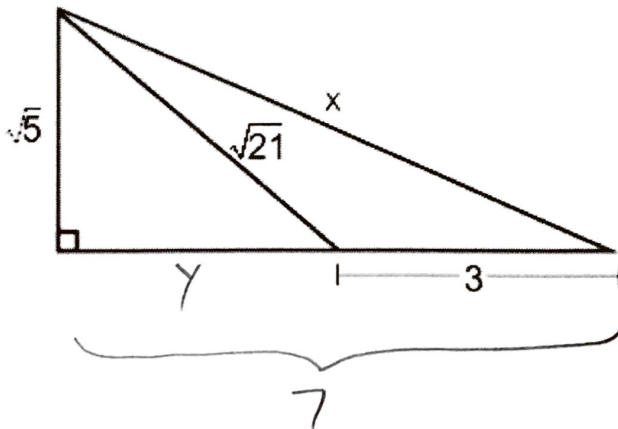
$$125 = x^2$$

$$\sqrt{125} = x$$

$$x \approx 11.2$$

About 11.2 miles

12. Find the value of x in the triangle below. Keep your answer in simplest radical form.



Find y first

$$\sqrt{5}^2 + y^2 = \sqrt{21}^2$$

$$5 + y^2 = 21$$

$$y^2 = 16$$

$$y = 4$$

$$\sqrt{5}^2 + 7^2 = x^2$$

$$5 + 49 = x^2$$

$$54 = x^2$$

$$\sqrt{54} = x$$

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

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

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

$$x = 3\sqrt{6}$$