

Name: key

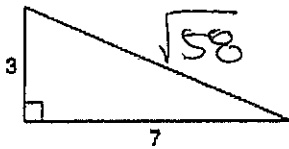
Date:

Period:

HW #9-7

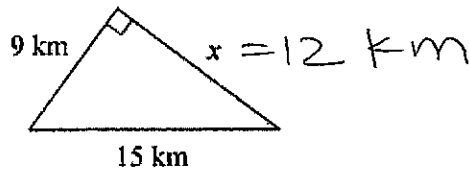
Find the length of the missing side (exact answers). Tell whether the side lengths form a Pythagorean Triple.

a.



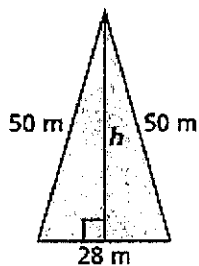
Not a triple -
Not all integers
sides are

b.



yes a triple -
all integer sides

2. Find the area of the isosceles triangle.



$$\text{area} = 672 \text{ m}^2$$

3. Verify that the segments lengths form a triangle. If so, determine whether the triangle is acute, right, or obtuse.

a. 9, 12, 13

acute $\triangle$

b. 8, 12, 15

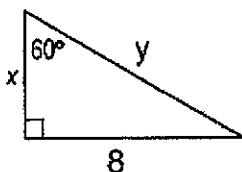
obtuse $\triangle$

c. $\sqrt{197}, 2\sqrt{37}, 7$

right $\triangle$

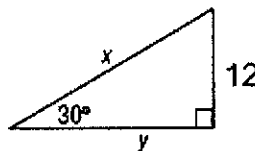
4. Find the values of x and y (exact answers).

a.



$$x = \frac{8\sqrt{3}}{3}, y = \frac{16\sqrt{3}}{3}$$

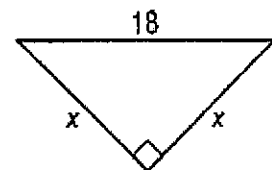
b.



$$y = 12\sqrt{3}$$

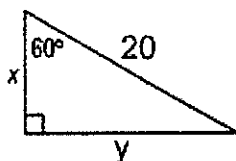
$$x = 24$$

c.



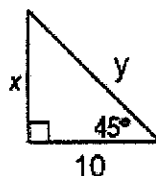
$$x = y = 9\sqrt{2}$$

d.



$$x = 10, y = 10\sqrt{3}$$

e.



$$x = 10$$

$$y = 10\sqrt{2}$$

5. Find the geometric mean of the two numbers (exact answers).

a. 3 and 7

$$\sqrt{21}$$

b. 20 and 25

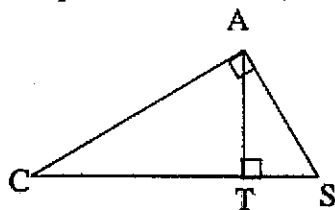
$$\cancel{6000}$$

$$10\sqrt{5}$$

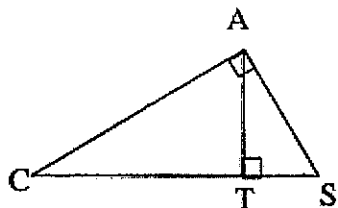
c. 8 and 18

$$12$$

6. Complete the similarity statement: $\triangle ACS \sim \triangle TCA \sim \triangle ATS$



7. In the diagram from #6 (given again below), if $AT = 6$ and $TS = 3$, find TC , AS , and AC .

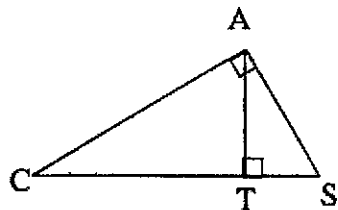


$$TC = 12$$

$$AC = 6\sqrt{5}$$

$$AS = 3\sqrt{5}$$

8. In the diagram from #6 (given again below), if $CT = 10$ and $TS = 8$, find AC , AT , and AS .



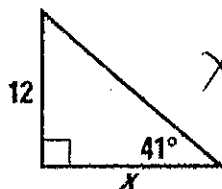
$$AT = 4\sqrt{5}$$

$$AC = 6\sqrt{5}$$

$$AS = 12$$

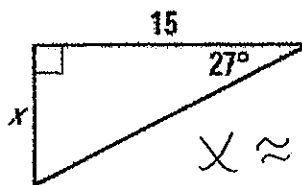
9. Find the value of x in each diagram.

a.



$$x \approx 13.80$$

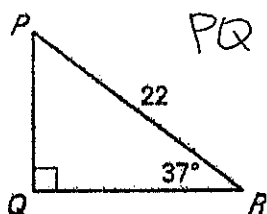
b.



$$x \approx 7.64$$

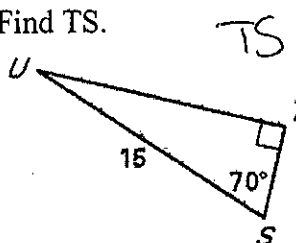
10. Find the length of the side of the triangle.

a. Find PQ .



$$PQ \approx 13.24$$

b. Find TS .



$$TS \approx 5.13$$