

Key

Name: _____

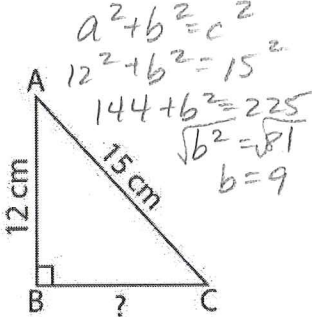
Score: _____

Pythagorean Theorem

Sheet 1

Determine the missing length in each right triangle using the Pythagorean theorem. Round the answer to the nearest tenth.

1)



$$a^2 + b^2 = c^2$$

$$12^2 + b^2 = 15^2$$

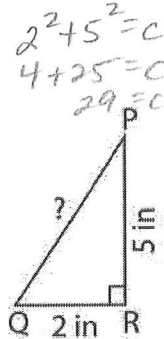
$$144 + b^2 = 225$$

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

$$b = 9$$

BC = 9 cm.

2)



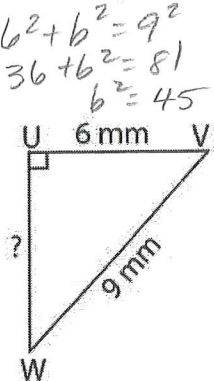
$$2^2 + 5^2 = c^2$$

$$4 + 25 = c^2$$

$$29 = c^2$$

PQ = $\sqrt{29} = 5.4$

3)



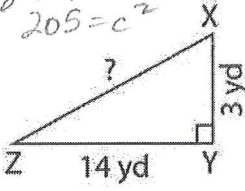
$$6^2 + b^2 = 9^2$$

$$36 + b^2 = 81$$

$$b^2 = 45$$

UW = $\sqrt{45} = 6.7$
 $\sqrt{9} \sqrt{5} = 3\sqrt{5}$

4)



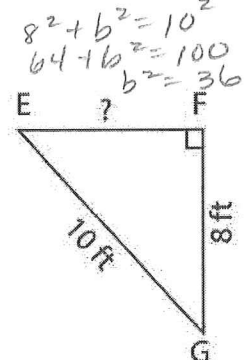
$$14^2 + 3^2 = c^2$$

$$196 + 9 = c^2$$

$$205 = c^2$$

XZ = $\frac{\sqrt{205}}{\sqrt{5}\sqrt{41}} = 14.3$

5)



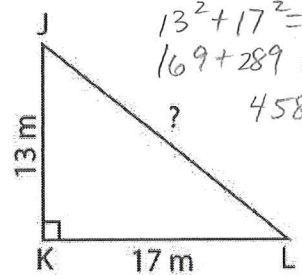
$$8^2 + b^2 = 10^2$$

$$64 + b^2 = 100$$

$$b^2 = 36$$

EF = $\sqrt{36} = 6$

6)



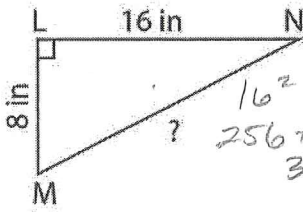
$$13^2 + 17^2 = c^2$$

$$169 + 289 = c^2$$

$$458 = c^2$$

JL = $\sqrt{458} = \sqrt{2} \sqrt{229} = 21.4$

7)



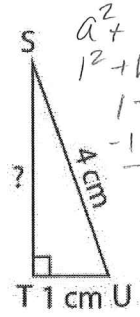
$$16^2 + 8^2 = c^2$$

$$256 + 64 = c^2$$

$$320 = c^2$$

MN = $\frac{\sqrt{320}}{\sqrt{2}\sqrt{2}\sqrt{80}} = 17.9$
 $\sqrt{4}\sqrt{80} = 2\sqrt{80}$

8)



$$a^2 + b^2 = c^2$$

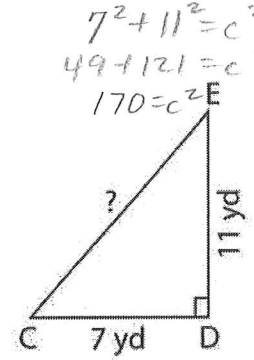
$$1^2 + b^2 = 4^2$$

$$1 + b^2 = 16$$

$$b^2 = 15$$

ST = $\sqrt{15} = 3.9$

9)



$$7^2 + 11^2 = c^2$$

$$49 + 121 = c^2$$

$$170 = c^2$$

CE = $\sqrt{170} = 13.0$
 $\sqrt{2}\sqrt{85}$

