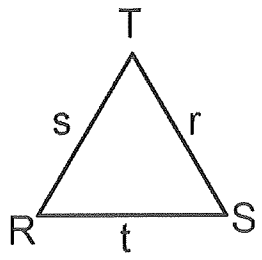
Name: _____ Hour: _____

Law of Cosines ID Practice

Directions: Round to the nearest tenth if needed

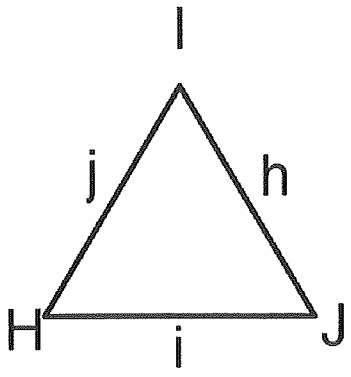
In ΔRST, given the following measures, find the measure of the missing side.

1. $r = 5, s = 8, m\angle T = 39$



In ΔHIJ, given the lengths of the sides, find the measure of the stated angle to the nearest tenth.

2. $h = 12, i = 18, j = 7; m\angle H$



Name: Key Hour: _____

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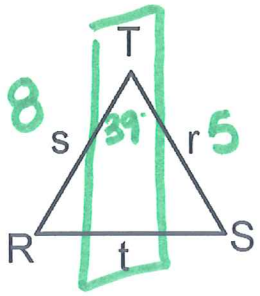

$t^2 = 8^2 + 5^2 - 2 \cdot 8 \cdot 5 \cos(39)$

$t^2 = 26.828$

$t \approx 5.2$

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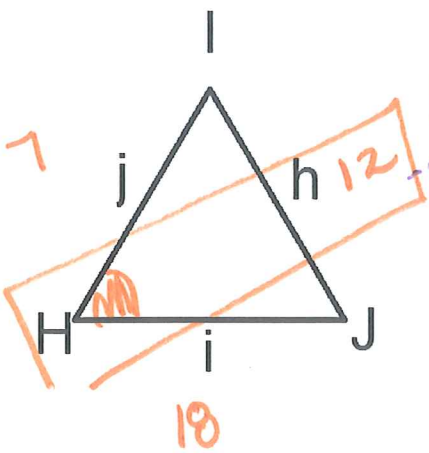

$12^2 = 7^2 + 18^2 - 2 \cdot 7 \cdot 18 \cos H$

$144 = 373 - 252 \cos H$

$-373 \quad -373$

$\frac{-229}{-252} = \frac{-252 \cos H}{-252}$

$\cos H = \frac{-229}{-252}$

$\angle H = \cos^{-1}\left(\frac{-229}{-252}\right)$

$m\angle H = 24.7°$