Student Worksheet for G.G. 47 and TI Nspire

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 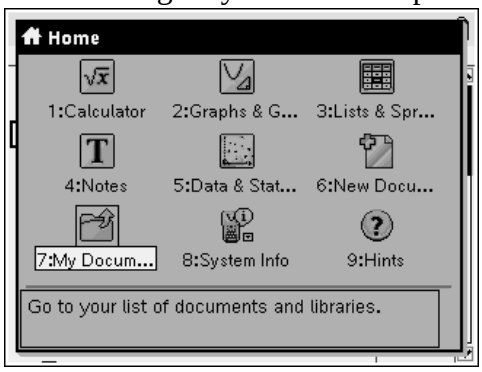
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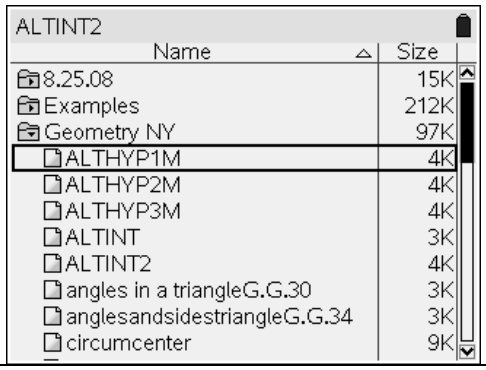
Select ALTHYP1M
 
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 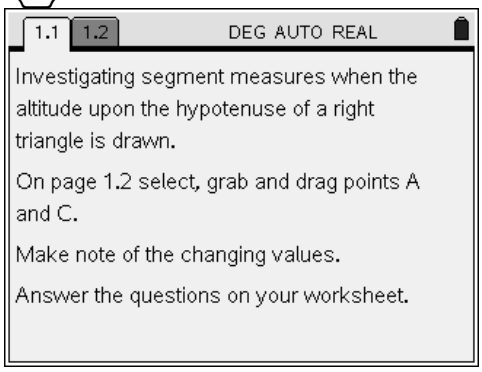
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 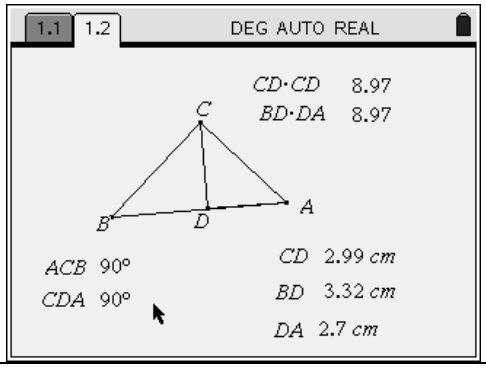
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<td>Now grab and drag vertices A and C.
Take note of what is changing and what is remaining the same.</td>
<td>Answer the questions that follow.</td>
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1) As you selected, grabbed and moved points A and C
   A) What changed? _____
   B) What remained the same? _____
2) What kind of triangle is $\triangle ABC$? _____
3) Name the hypotenuse of $\triangle ABC$. _____

4) $\overline{CD}$ **must** be a(an) _____

A) median

B) angle bisector

C) altitude

D) perpendicular bisector

5) Name the segments of the hypotenuse. _____ _____

6) Which of the following statements seems to be true? _____

A) CD*CD > BD*DA
B) CD*CD = BD*DA
C) CD*CD < BD*DA

7) The answer to question 5 allows us to rewrite the expression as a proportion. Fill in the missing extremes: $\frac{?}{CD} = \frac{CD}{?}$ _____ _____

8) The answer to question 5 allows us to rewrite the expression as a proportion. Fill in the missing means: $\frac{BD}{?} = \frac{?}{DA}$ _____ _____

9) When the means of a proportion are the same that value is called the **mean proportional**. Example: $\frac{a}{x} = \frac{x}{b}$ In this proportion x is the **mean proportional** between a and b. Using this example as a guide and your answers to questions 6 and 7 fill in the blanks of the following statement:

CD is the _____ between _____ and _____

10) Using your answers to questions 3 and 4 generalize the answer to question 8.

If the altitude is drawn upon the hypotenuse of a right triangle then the _____ is the mean proportional between the _____.