QUIZ 3 - MATH 131 Friday, February 5

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Two buildings are 300 feet apart. The angle of elevation from the top of the shorter building to the top of the taller building is $25°$. If the shorter building is 70 feet high, how tall is the taller building?

   (a) Draw for me a sketch showing all the data given and labeling h the quantity we want to find.

   (b) Use your trigonometric knowledge to answer the question.

2. Suppose that $\sec\theta = \dfrac{5}{2}$ and that $\dfrac{3\pi}{2} < \theta < 2\pi$. Find $\cot\theta$.

3. Use only the identities that we covered in class (three reciprocal, two ratio and three Pythagorean) to rewrite as a single term and simplify.

$$\frac{1}{1-\sin t} + \frac{1}{1+\sin t} =$$