

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Mr. Gilbert is preparing for Halloween.

He knows that a few of his 2Ps are planning on TPing his house. He needs to buy a ladder so he can get onto his roof and remove the toilet paper on November 1st.

The recommended angle of elevation for a ladder is  $76^\circ$  and Mr. Gilbert's eaves trough is 12 feet above the ground.

**a) Draw a rough, labeled, diagram of the situation.**

**b) Will the ladder need to be longer or shorter than 12 feet? Explain how you know this.**

**c) What is the minimum length of ladder that Mr. Gilbert needs to purchase?**

**d) How far away from the house will Mr. Gilbert place the length of his ladder?**