WIND STUDY

Wind Study is intended for grades 5-8 and 8-11
Questions posted on: Monday Answers posted on: Friday
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2021Q12 (PROPORTIONS, RATES)

One Energy's towers are made up of four sections. The four sections are called the Base, the Lower Mid, the Upper Mid, and the Top. During the installation process, each section is lifted with a crane, stacked on top of the one below it, and secured. While being lifted, the tower sections are 'tripped' – they are rotated from a horizontal to a vertical position.

Level 1: The Base section, which is 39.5 feet tall, has already been installed. The Lower Mid is being lifted. The Lower Mid is 1.74 times the height of the base. The Lower Mid, after tripping, still needs to be lifted ¾ of the way to have the bottom rim clear the top of the Base by 5 feet. How far above the ground is the bottom of the Lower Mid? Assume the bottom of the Base section is level with the ground.

Level 2: The Lower Mid is being raised at a rate of 2.5 ft/min. How long will it take the bottom of the section to reach the clearance height stated above?

A tower section being tripped.