

School-to-Career Activity

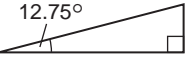
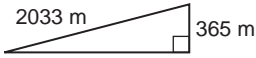
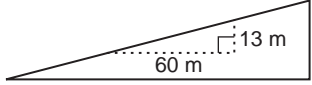
(Use with Lesson 6-1)

Logging Crew Worker

Suppose you work with a logging crew under the direction of a professional forester. The forester has selected a site for new logging activity. To bring in the heavy logging machinery needed for the project, a dirt road must be cleared to the site. The forester has planned three possible approaches to the site. Because you are the most familiar with the capabilities of the logging machinery, you have been asked by the forester to help make the final selection of the road route.



Other members of the crew have inspected the three proposed routes and returned with the following information about the steepest portion of each route.

Route A	Route B	Route C
<p>Crew member estimates the angle of elevation of the steepest portion of the proposed road to be 12.75°.</p> 	<p>Crew member estimates the face of the steepest slope to be 2033 meters long, with a 365-meter change in elevation.</p> 	<p>Crew member estimates the steepest portion of the proposed road to rise 13 meters for every 60 meters of horizontal distance.</p> 

Which route has the portion with the steepest slope? If you know that the steepest grade over which your logging equipment can safely travel is 20%, which route(s) can be eliminated from consideration? Explain your reasoning. What other factors do you think should be considered?

Slopes: Route A, 0.226; Route B, 0.183; Route C, 0.217; Route A is steepest. Eliminate Route A (22.6% grade) and Route C (21.7% grade). Other factors: length of road, extent of clearing needed, and so on