

Lesson 8: Percent Slope

3. For 25 feet of sidewalk, what is the total fall? Be sure to show your calculations along with your answer.

4. Explain or show how 'pitch per foot' connects to 'total fall.'

5. Now, using your definition for % slope (Percent Grade), what is the % slope for the 25' length sidewalk? Be sure to show your calculations along with your answer.

6. What is the % slope for the 1' length? Be sure to show your calculations along with your answer.

7. Explain or show how the % slope connects the pitch per foot?

Problem Situation #2 : Forming Up a Sidewalk: Given % Grade

You are a carpenter on a flatwork crew that is tasked with placing a sidewalk. Your crew lead has given you the following information: The total length for the section of sidewalk you need to form up is 50 feet with a required 2% grade.

8. What is the total fall of the sidewalk for that 50'? Be sure to show your calculations along with your answer.

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Problem Situation #3 : Forming Up a Sidewalk: Given Total Fall

You are a carpenter on a flatwork crew that is tasked with placing a sidewalk. Your crew lead has given you the following information: The total length for the section of sidewalk you need to form up is 40 feet. The total fall for that section is 24".

9. Building code says that if Percent Grade is 5% or greater, then the sidewalk is considered a ramp and needs guardrail. Will this section of sidewalk require a guardrail? Be sure to show your work to justify your answer.

MAKING CONNECTIONS

Record the important mathematical ideas from the discussion.

Practice/Homework

1. Pitch Per Foot = $\frac{1}{2}$ ". Calculate % Slope.
2. % Slope = 5%. Calculate Pitch Per Foot.
3. Pitch Per Foot = $\frac{3}{8}$ ". Calculate Total Fall for a 60' run of sidewalk. Calculate % Slope.
4. Total Fall = 12" and the sidewalk run = 40 feet. Calculate % Slope. Calculate Pitch Per Foot.
5. You have poured a 30' length of sidewalk with an 11" fall. What is the % slope?
6. The pitch per foot of a driveway is $\frac{3}{4}$ ".
 - a. What is the fall for 30' of driveway?
 - b. What is the % slope of this driveway?
 - c. If there is a sidewalk placed next to the driveway, will it require a guardrail?