

5.3 Slope HW

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pg 259 #1, 5, 8, 9, 11, 14, 15

1. a) slope = $\frac{\text{rise}}{\text{run}}$
 $= \frac{3}{5}$
 $= 0.6$

b) slope = $\frac{\text{rise}}{\text{run}}$
 $= \frac{4.4}{3.2}$
 $= 1.375$

5. a) AB: slope = $\frac{1}{3}$
b) CD: slope = $\frac{3}{5}$
c) EF: slope = $-\frac{5}{2}$
d) GH: slope = $\frac{0}{5} = 0$
e) IJ: slope = $\frac{7}{0}$ undefined
f) KL: slope = $-\frac{2}{5}$

8. a) slope = $\frac{\text{rise}}{\text{run}}$
 $= \frac{5}{6}$
 $= 0.83$ not between 0.58 and 0.7 - too steep!

b) slope = $\frac{\text{rise}}{\text{run}}$ we need to figure out rise and run.

rise is 24×12 (12 steps) = 288
run is $28 \times 12 = 336$

$\frac{\text{rise}}{\text{run}} = \frac{288}{336} = 0.86$ too steep!

9. A(-2, 5)

a) start at (-2, 5), rise 2 and run 3 : $(-2+3, 5+2)$
 $= (1, 7)$

b) start at (-2, 5), rise -2 and run 3 : $(-2+3, 5-2)$
 $= (1, 3)$

c) start at (-2, 5), rise 4 and run 1 (since 4 is $\frac{4}{1}$)
 $= (-2+1, 5+4)$
 $= (-1, 9)$

d) rise is -3, run is 1 : $(-2+1, 5-3) = (-1, 2)$

e) 0 : horizontal line so (any #, 5)

f) undefined : vertical line so (-2, any #)

11. road with rise 21m and run 500m

a) slope = $\frac{\text{rise}}{\text{run}}$
 $= \frac{21}{500}$
 $= 0.042$ convert to % : 4.2% is grade

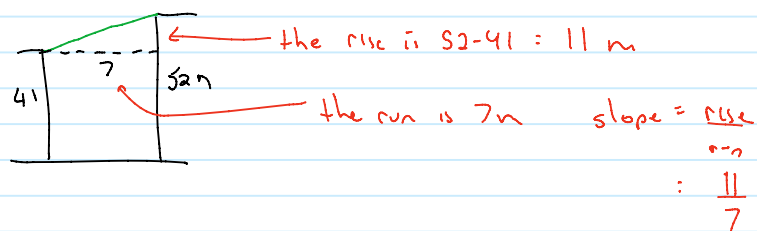
b) grade must be 3%. Run is 600. what is rise?

first, convert grade to slope: 3% = 0.03

slope = $\frac{\text{rise}}{\text{run}}$ $0.03 = \frac{\text{rise}}{600}$ $600(0.03) = \text{rise}$
 $18 = \text{rise}$

The road can rise 18m

14.



15.



slope must be 6.3 to 9.5

8m 1) what is x when slope is 6.3?

$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

$$6.3 = \frac{8}{x} \quad x = \frac{8}{6.3} = 1.27$$

2) what is x when slope is 9.5?

$$9.5 = \frac{8}{x} \quad x = \frac{8}{9.5} \quad x = 0.84$$

\therefore the ladder needs to be between 0.84 and 1.25 m from the base of the wall.