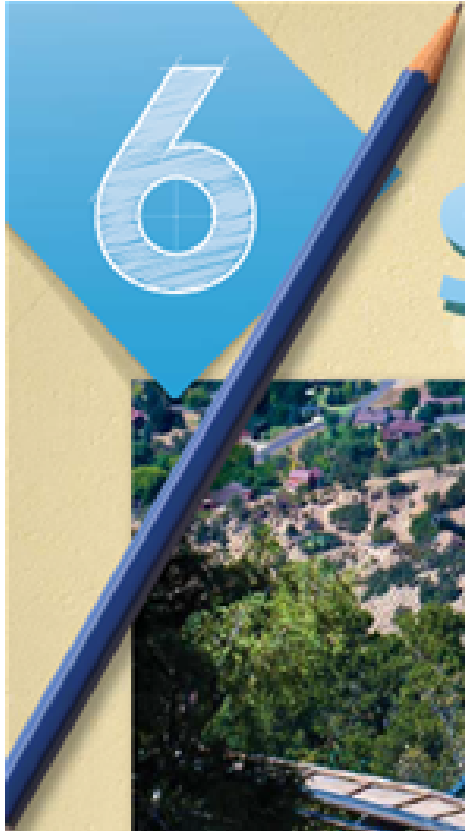


6

# Slope



1. Express each fraction in lowest terms.

a)  $\frac{4}{12}$

b)  $\frac{8}{16}$

c)  $\frac{0}{6}$

d)  $\frac{7}{28}$

**2.** Solve.

**a)**  $10 = \frac{x}{5}$

**b)**  $4 = \frac{20}{x}$

**c)**  $\frac{40}{x} = \frac{10}{3}$

**d)**  $\frac{x}{16} = \frac{5}{4}$

**3.** Solve to create equivalent ratios.

**a)**  $1:6 = \blacksquare:24$

**b)**  $\blacksquare:12 = 6:4$

**c)**  $30:\blacksquare = 6:5$

**d)**  $20:1 = 100:\blacksquare$

# 6.1

## What Is Slope?

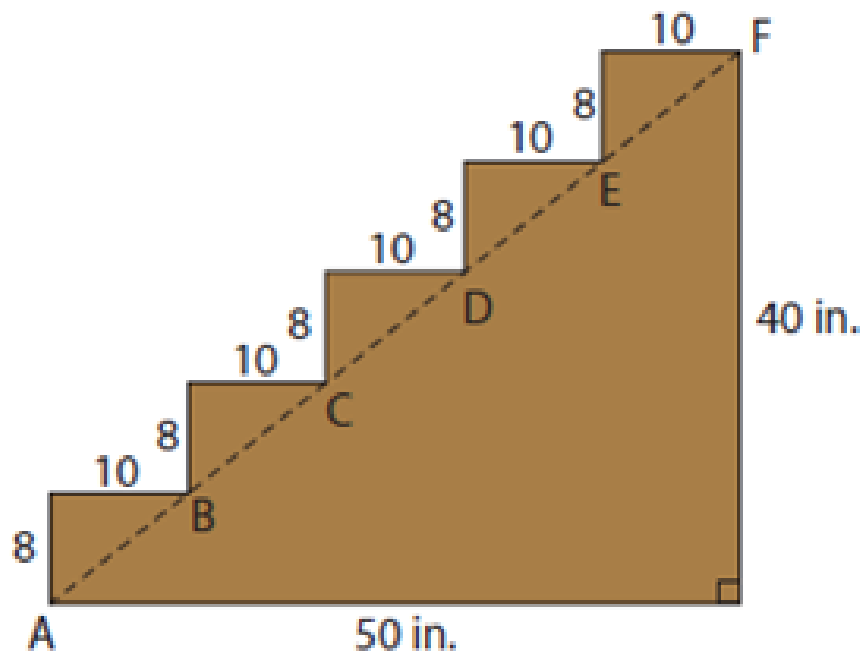
### Focus On . . .

- explaining slope as rise divided by run
- verifying that the slope is constant for a straight object
- solving problems that involve slope
- describing contexts that involve slope



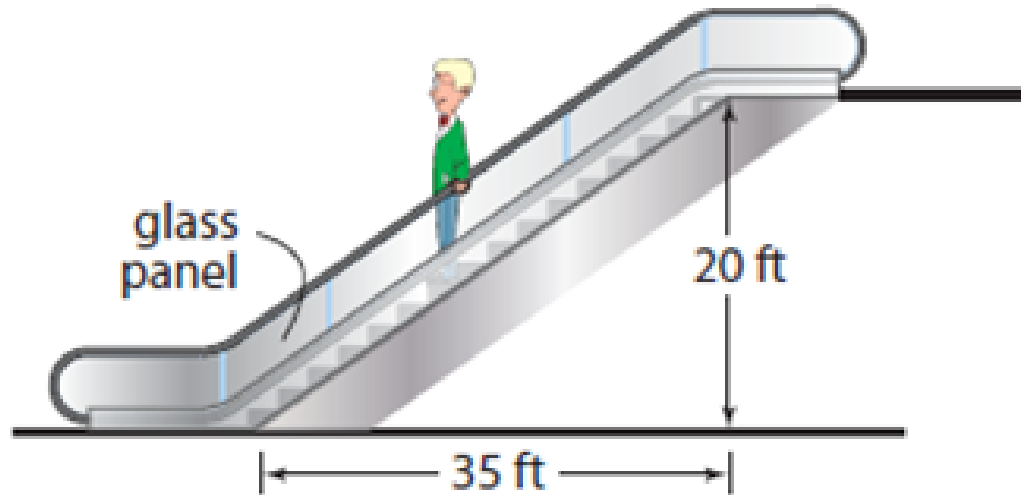
## Calculate Slope

Aiden is a carpenter's apprentice. He sketches the side view of the stairs he is working on. Aiden needs to check that the handrail is installed at the same slope as the stairs. What should be the slope of the handrail?

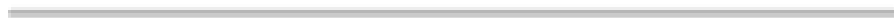
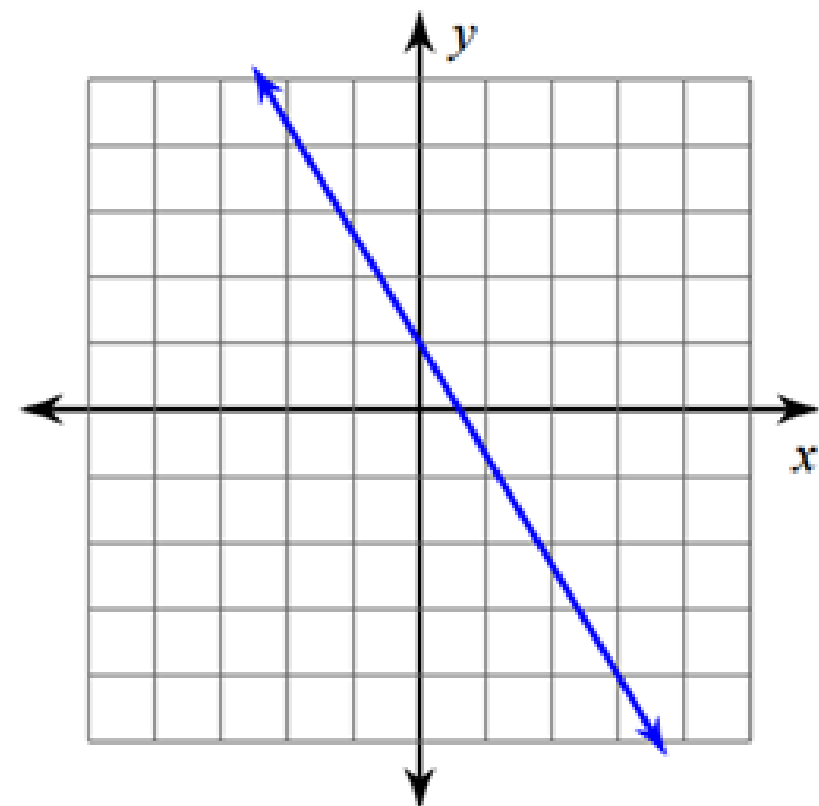
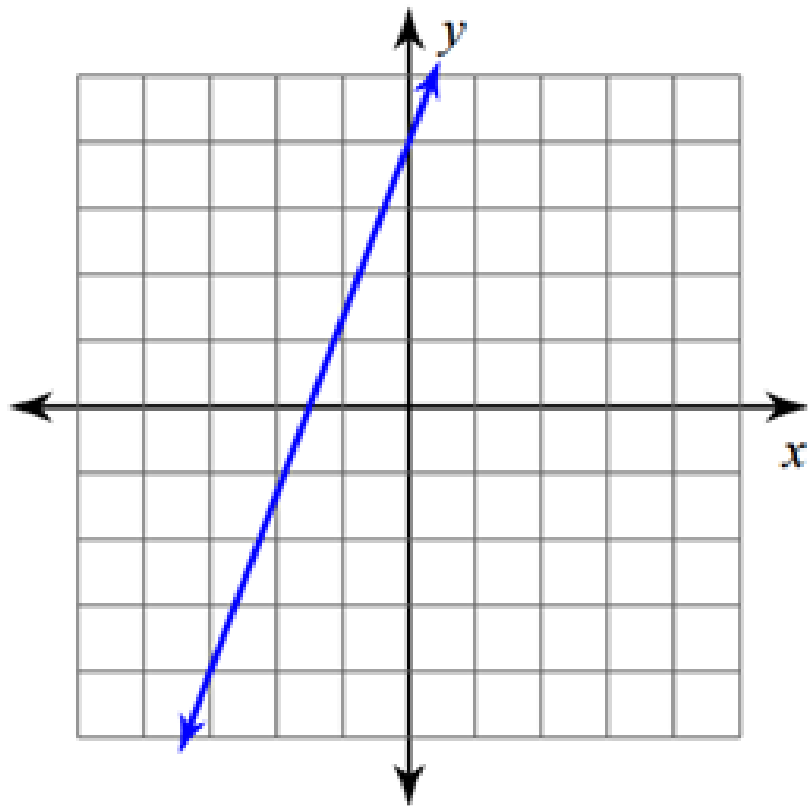


## Your Turn

One panel of glass needs to be replaced on the escalator shown. Leanne places the order with the glass company, but she needs to tell them the slope. What is the slope of the glass?



Find the slope of the line, given the graph





A ramp has a slope of  $\frac{1}{8}$  and stretches a horizontal distance of 24 in. What is the vertical distance of the ramp?

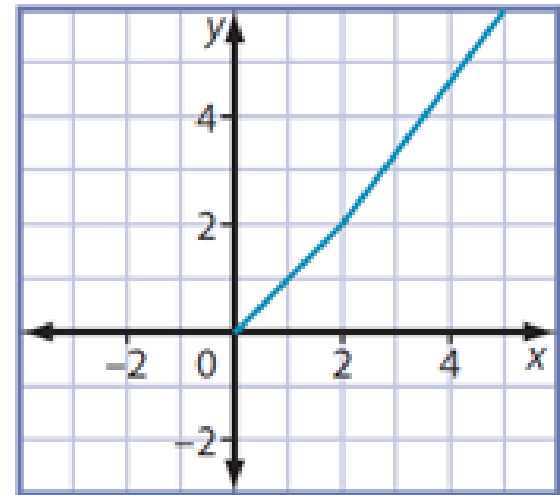
5. Suppose the slope of a line is  $2:3$  and the run is 6 cm. What is the rise of the line?

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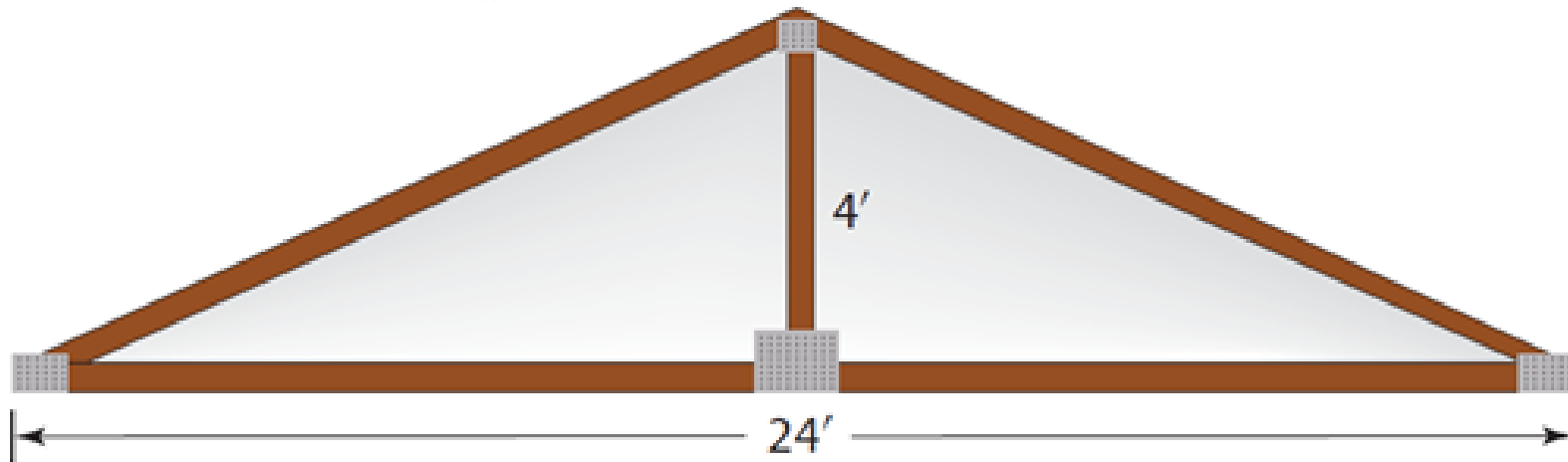
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6. Does the graph show a straight line?  
Justify your answer using slope.



7. Betty says the pitch, or slope, of the roof shown is  $\frac{2}{12}$ . Carolyn insists the slope is  $\frac{4}{12}$ . Who is correct? How do you know?



9. Kara and Amy are planning a ski trip to Skier's Paradise. They check the website and see the following table.

Ski Run	Horizontal Distance	Vertical Distance
Skier's Surprise	1576 m	519 m
Rigorous Run	419 m	220 m
Magic Mountain	231 m	95 m
Bunny Slope Express	87 m	28 m

- Calculate the slope of each run. Express each answer as a decimal to the nearest hundredth.
- Kara is an avid skier. Which run should she choose? Why?
- Amy has only skied once before and is a little nervous about skiing. Which run should she choose? Why?