**28. REASONING** The Key Concept box on page 84 states that lines ℓ_1 and ℓ_2 must be nonvertical. *Explain* why this condition is necessary.

FINDING SLOPE Find the slope of the line passing through the given points.

29. $\left(-1, \dfrac{3}{2}\right), \left(0, \dfrac{7}{2}\right)$ **30.** $\left(-\dfrac{3}{4}, -2\right), \left(\dfrac{5}{4}, -3\right)$ **31.** $\left(-\dfrac{1}{2}, \dfrac{5}{2}\right), \left(\dfrac{5}{2}, 3\right)$

32. $(-4.2, 0.1), (-3.2, 0.1)$ **33.** $(-0.3, 2.2), (1.7, -0.8)$ **34.** $(3.5, -2), (4.5, 0.5)$

35. ◄ **TAKS REASONING** Does it make a difference which two points on a line you choose when finding the slope? Does it make a difference which point is (x_1, y_1) and which point is (x_2, y_2) in the formula for slope? Support your answers using three different pairs of points on the line shown.
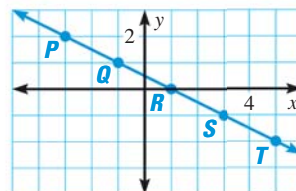
36. ◄ **TAKS REASONING** Find two additional points on the line that passes through $(0, 3)$ and has a slope of -4.

CHALLENGE Find the value of k so that the line through the given points has the given slope. Check your solution.

37. $(2, -3)$ and $(k, 7)$; $m = -2$ **38.** $(0, k)$ and $(3, 4)$; $m = 1$

39. $(-4, 2k)$ and $(k, -5)$; $m = -1$ **40.** $(-2, k)$ and $(2k, 2)$; $m = -0.25$

PROBLEM SOLVING

41. ESCALATORS An escalator in an airport rises 28 feet over a horizontal distance of 48 feet. What is the slope of the escalator?

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42. INCLINE RAILWAY The Duquesne Incline, a cable car railway, rises 400 feet over a horizontal distance of 685 feet on its ascent to an overlook of Pittsburgh, Pennsylvania. What is the slope of the incline?

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43. ROAD GRADE A road's *grade* is its slope expressed as a percent. A road rises 195 feet over a horizontal distance of 3000 feet. What is the grade of the road?

44. ◄ **TAKS REASONING** The diagram shows a three-section ramp to a bridge. Each section has the same slope. *Compare* this slope with the slope that a single-section ramp would have if it rose directly to the bridge from the same starting point. *Explain* the benefits of a three-section ramp in this situation.
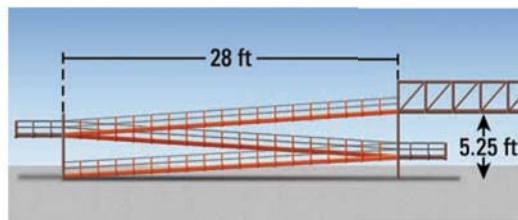
45. ◄ **TAKS REASONING** Over a 30 day period, the amount of propane in a tank that stores propane for heating a home decreases from 400 gallons to 214 gallons. What is the average rate of change in the amount of propane?

A -6.2 gallons per day **B** -6 gallons per day

C -0.16 gallon per day **D** 6 gallons per day