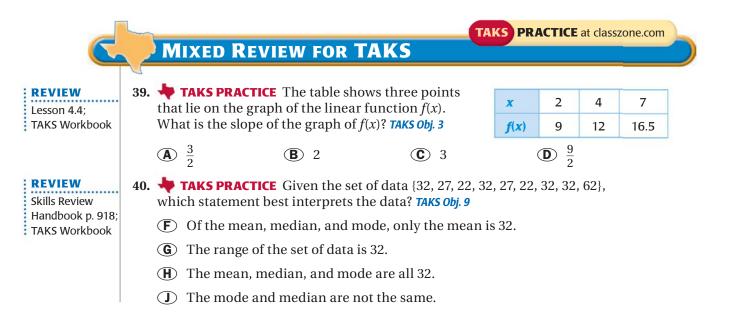
**37. SCIENCE** Atmospheric pressure, measured in pounds per square inch (psi), is the pressure exerted on an object by the weight of the atmosphere above the object. The atmospheric pressure *p* (in psi) can be modeled by

$$p = \frac{14.55(56,267 - a)}{55,545 + a}$$

where *a* is the altitude (in feet). Is the change in altitude greater when the atmospheric pressure changes from 10 psi to 9 psi or from 8 psi to 7 psi? *Explain* your answer.

**38. CHALLENGE** Butterfat makes up about 1% of the volume of milk in 1% milk. Butterfat can make up no more than 0.2% of the volume of milk in skim milk. A container holds 15 fluid ounces of 1% milk. How many fluid ounces of butterfat must be removed in order for the milk to be considered skim milk? Round your answer to the nearest hundredth.



## **QUIZ** for Lessons 12.5–12.7

Find the product or quotient. (p. 802)

1. 
$$\frac{5}{8x^2} \cdot \frac{4x^3}{15}$$

Find the sum or difference. (p. 812)

**3.** 
$$\frac{8a}{a+11} - \frac{5a-1}{a+11}$$

4. 
$$\frac{6n}{n+3} + \frac{n-1}{n^2+5n+6}$$

**2.**  $\frac{3y^2 + 6y}{y^2 - 16} \div \frac{y^2}{y - 4}$ 

Solve the equation. Check your solution. (p. 820)

5. 
$$\frac{2z}{z+5} = \frac{z}{z-3}$$
 6.  $\frac{2x}{x} + \frac{3-x}{x+1} = \frac{-x}{x^2}$ 

**7. BATTING AVERAGES** A softball player's batting average is the number of hits divided by the number of times at bat. A softball player has a batting average of .200 after 90 times at bat. How many consecutive hits does the player need in order to raise the batting average to .250? (*p. 820*)

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