

REASONING In Exercises 45–47, tell whether the statement is *true* or *false*. If it is false, give a counterexample.

45. If x is negative, then x^2 is positive.
46. If the product of three numbers is positive, then all three numbers are positive.
47. If the product of four numbers is 0, then at least one of the numbers is 0.
48. **TEXAS TAKS REASONING** Let a be a negative number. If the product abc is positive, which statement must be true?
 Ⓐ $bc > 0$ Ⓑ $bc < 0$ Ⓒ $ac > 0$ Ⓓ $ab < 0$
49. **CHALLENGE** The product of n factors is negative. What is the greatest possible number of negative factors if n is even? if n is odd? Give several examples to support your answers.

PROBLEM SOLVING

EXAMPLE 4

on p. 90
for Exs. 50–53

50. **DEAD SEA** In 1940 the surface area of the Dead Sea was about 980 square kilometers. From 1940 to 2001, the average rate of change in surface area was about -5.7 square kilometers per year. Find the surface area of the Dead Sea in 2001.

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51. **STOCKS** An investor purchases 50 shares of a stock at \$3.50 per share. The next day, the change in value of a share of the stock is $-\$0.25$. What is the total value of the shares the next day?

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52. **TEXAS TAKS REASONING** In 1913 the total volume of the glaciers on Mount Rainier was 5.62 cubic kilometers. The table shows the average rate of change in the volume for two periods of time.

Time period	Rate of change (km ³ /yr)
1913–1971	-0.02241
1971–1994	-0.00565

- a. Find the total volume of the glaciers in 1971 and in 1994.
- b. About one third of the change in volume during the period 1913–1994 took place in the northeastern glaciers. Find the change in the volume of the northeastern glaciers. *Explain* your steps.
53. **TEXAS TAKS REASONING** The Rialto Bridge in Venice, Italy, is a footbridge built in the late 16th century. The maximum clearance between the water and the bridge is about 7.32 meters. Because of a rising sea level and a gradual sinking of the city, the clearance changes at an average rate of about -2 millimeters per year. Approximate the clearance after 15 years.

- Ⓐ 5.32 meters Ⓑ 7.02 meters
 Ⓒ 7.29 meters Ⓓ 7.318 meters

