

Monday, October 31

A certain linear function $f(x)$ is such that $f(0) = 4$, $f(2) = p$, and $f(-1) = q$. What is the value of $p + 2q$?

a. 10

b. 12



c. -4

d. -10

e. -12

Tuesday, November 1

The formula $S = 20\sqrt{t + 273}$ gives the speed of sound S in meters per second near Earth's surface, where t is the surface temperature in degrees Celsius. At a point near Earth's surface, if the speed of sound is 348 meters/second, what is the corresponding temperature in degrees Celsius?

- f. 3
- g. 30
- h. 100
- j. 200
- k. 300

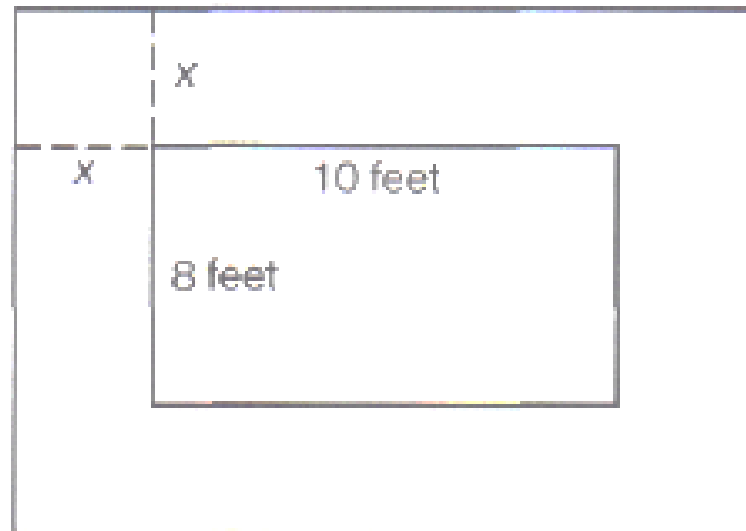


Wednesday, November 2

A rectangular flower bed is 8×10 feet. It is surrounded by a border of uniform width x feet, as shown in the figure below.

If the area of the bordering region alone is 40 square feet, what is the value of x ?

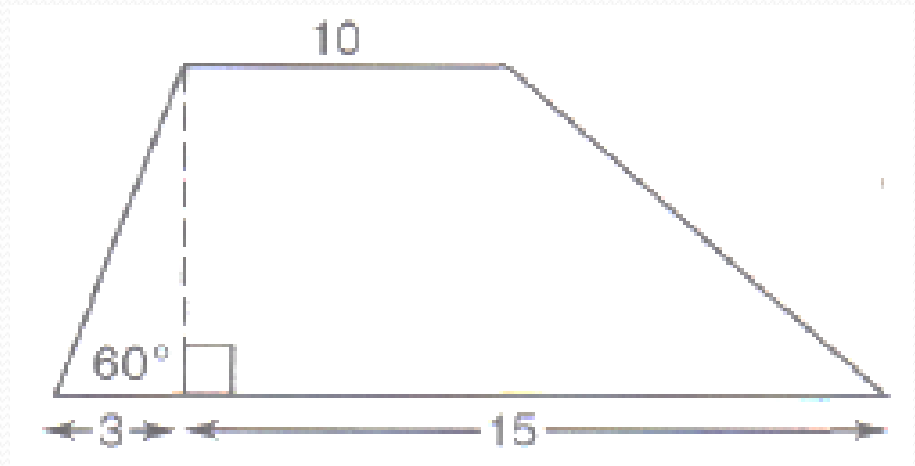
- a. 1
- b. 2
- c. 3
- d. 10
- e. 11



Thursday, November 3

The area of a trapezoid with parallel bases b_1 and b_2 and altitude h is given by $A = \frac{1}{2}h(b_1 + b_2)$. What is the area of the trapezoid shown below?

- f. 90
- g. 84
- h. 42
- j. $42\sqrt{2}$
- k. $42\sqrt{3}$ ←



Friday, November 4

If $9^{2x+1} = 3^{x-4}$, then $x = ?$

a. -5

b. -2 

c. 0

d. $-\frac{6}{5}$

e. $-\frac{2}{3}$