

8.1.105 Find a value of k that will make $x^2 + kx + 9$ a perfect square trinomial.

$$k = \boxed{3}$$

Write an equation to find k .

We know the CTS procedure:

Take coefficient of x and divide by 2:

$$\frac{k}{2}$$

Square result

$$\left(\frac{k}{2}\right)^2 = \frac{k^2}{4}$$

In the given problem this result is 9:

$$\frac{k^2}{4} = 9$$

Solve for k :

$$k^2 = 9 \cdot 4$$

$$k^2 = 36$$

$$k = 6 \text{ or } k = -6.$$

Notice the instructions ask for a value of k .

MathXL is prepared for one answer.

It will count

$$k = 6 \text{ correct}$$

or

$$k = -6 \text{ correct}$$

but not

$$k = 6, -6.$$