



### EXAMPLE 3 TAKS PRACTICE: Multiple Choice

The parks and recreation department in your town offers a season pass for \$105.

- As a season pass holder, you pay \$3 per session to use the town's tennis courts.
- Without the season pass, you pay \$12 per session to use the tennis courts.

Which system of equations can be used to find the number  $x$  of sessions of tennis after which the total cost  $y$  with a season pass, including the cost of the pass, is the same as the total cost without a season pass?



#### ELIMINATE CHOICES

You can eliminate choice A because neither of the equations include the cost of a season pass.

- A**  $y = 3x$   
 $y = 12x$ 
 **B**  $y = 3x$   
 $y = 105 + 12x$ 
 **C**  $y = 12x$   
 $y = 105 + 3x$ 
 **D**  $y = 105 + 3x$   
 $y = 105 + 12x$

#### Solution

Write a system of equations where  $y$  is the total cost (in dollars) for  $x$  sessions.

##### EQUATION 1

Total cost (dollars)	=	Cost per session (dollars/session)	•	Number of sessions (sessions)
$y$	=	12	•	$x$

##### EQUATION 2

Total cost (dollars)	=	Cost for season pass (dollars)	+	Cost per session (dollars/session)	•	Number of sessions (sessions)
$y$	=	105	+	3	•	$x$

▶ The correct answer is C.  A  B  C  D



#### GUIDED PRACTICE for Example 3

- Solve the linear system in Example 3 to find the number of sessions after which the total cost with a season pass, including the cost of the pass, is the same as the total cost without a season pass.
- WHAT IF?** In Example 3, suppose a season pass costs \$135. After how many sessions is the total cost with a season pass, including the cost of the pass, the same as the total cost without a season pass?