

# STATE YOUR FACTS

This state produced eight future United States presidents and was the birthplace of Thomas A. Edison. It also introduced the world to ice-cream cones. Which state is this?

Change each of the following equations into the slope-intercept form, and identify the slope ( $m$ ) and the  $y$ -intercept ( $b$ ). Shade in the grid boxes that contain your answers. Read across the remaining unshaded boxes to spell out the answer to the question.



**Tip:** When changing an equation to the slope-intercept form ( $y = mx + b$ ), multiply by the reciprocal to eliminate the value in front of the  $y$  variable. For example,

$$4x + 2y = 6 \rightarrow 2y = 6 - 4x \rightarrow (1/2)2y = (1/2)6 - (1/2)4x \rightarrow y = 3 - 2x.$$

1.  $3x - 4y = 12$

7.  $10x - 2y = 12$

2.  $-2x - 5y = 20$

8.  $-11x + 11y = -22$

3.  $x + y = -3$

9.  $-2x + 9y = 18$

4.  $5x - 6y = 30$

10.  $x - 3y = -21$

5.  $7x - 4y = 16$

11.  $-6x + y = 10$

6.  $-8x + 3y = 12$

12.  $x - y = -13$

Y $b = -5$ $m = 5/6$	O $b = 8$ $m = -9$	J $b = -6$ $m = 5$	P $b = -3$ $m = 3/4$
T $b = 7$ $m = 1/3$	U $b = 13$ $m = 1$	N $b = -4$ $m = 7/4$	H $b = -7$ $m = 4$
I $b = 1$ $m = -2$	L $b = 2$ $m = 2/9$	M $b = -3$ $m = -1$	V $b = -4$ $m = -2/5$
R $b = 10$ $m = 6$	A $b = 4$ $m = 8/3$	O $b = -10$ $m = -1$	S $b = -2$ $m = 1$




Answer: \_\_\_\_\_

# POSITIVE THINKING

What is one of the best ways to succeed?

Write the equation of each line given its slope ( $m$ ) and  $y$ -intercept ( $b$ ). Write the exercise number in front of the corresponding answer listed in the grid. To spell out the answer at the bottom of the page, refer to the grid and write the code letter that corresponds to the exercise number given.

 **Tip:** When plugging  $m$  and  $b$  values into the equation  $y = mx + b$ , don't forget to include negative symbols when given. For example, when  $m = -4$  and  $b = -6$ , the equation is  $y = -4x - 6$ .

1.  $m = 2, b = -5$
2.  $m = 1/3, b = 2$
3.  $m = -4, b = -3$
4.  $m = -1/2, b = 8$
5.  $m = -3, b = -4$
6.  $m = -1/3, b = -2$
7.  $m = -5, b = 2$
8.  $m = -10, b = -9$
9.  $m = 8, b = -1/2$
10.  $m = 2, b = 1/3$
11.  $m = -1, b = 0$
12.  $m = 1, b = -1$
13.  $m = 0, b = -5$
14.  $m = -1, b = -1$

Code Letter	Exercise #	Answer
A		$y = -x$
C		$y = 8x - 1/2$
D		$y = -x - 1$
E		$y = 1/3x + 2$
F		$y = 2x + 1/3$
I		$y = 2x - 5$
L		$y = -5x + 2$
M		$y = -1/2x + 8$
N		$y = x - 1$
O		$y = -10x - 9$
R		$y = -4x - 3$
T		$y = -1/3x - 2$
U		$y = -5$
Y		$y = -3x - 4$

Answer:

9   7   2   11   3   5   8   13   3   4   1   12   14  
 8   10   9   11   12   6