1. Vincent graphed a linear function. The function has a **positive slope** and a **positive x-intercept**. Which could be the function that Vincent graphed?

A) $5x + 10y = 15$

B) $5x - 10y = 15$

C) $5x + 10y = -15$

D) $5x - 10y = -15$

---

**A)**

$5x + 10y = 15$

\[
\begin{align*}
-5x & \quad \downarrow \quad -5x \\
10y & \quad \downarrow \quad 10 \\
\hline \\
y & = \frac{-5x + 15}{10} \\
& = -\frac{1}{2}x + \frac{3}{2}
\end{align*}
\]

**B)**

$5x - 10y = 15$

\[
\begin{align*}
-5x & \quad \downarrow \quad -5x \\
-10y & \quad \downarrow \quad -10 \\
\hline \\
y & = \frac{-5x + 15}{-10} \\
& = \frac{1}{2}x - \frac{3}{2}
\end{align*}
\]

5x - 10y = 15
5x - 10(0) = 15
5x = 15
\[
\frac{5x}{5} = \frac{15}{5}
\]

x = 3

**x-int** = (3,0)
Calculator Steps!

We need to tell the calculator where to shade! Use the left arrow to highlight the diagonal line on the left.

Press enter until the correct triangle is created. Hint: Shade up or down?
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<td>two or more linear inequalities with the same set of unknowns</td>
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<td><strong>SOLUTION to a System of Linear Inequalities</strong></td>
<td>all coordinate points in the overlapping shaded region</td>
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(5,0) (6,0) (7,-3)
Quad. IV
```

```
1. \[ y > -x - 1 \]
2. \[ y < x - 5 \]
3. \[ y \leq \frac{1}{2}x + 7 \]
4. \[ y \geq -x + 4 \]

Quads 1, 2, 4
```
3. \[
\begin{align*}
x - 4y & \leq 24 \\
y & \leq 2x + 1
\end{align*}
\]

\[
\begin{align*}
x - 4y & \leq 24 \\
\frac{-x}{4} & \geq \frac{-x + 24}{4} \\
y & \geq \frac{1}{4}x - 6
\end{align*}
\]

4. \[
\begin{align*}
\{ x & < -4 \\
3x + 2y & \leq -2
\end{align*}
\]