

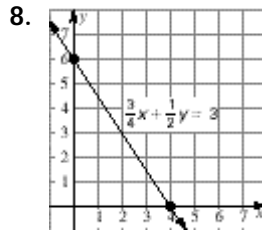
Answer Key

Challenge: Skills and Applications

- $5x + 3y = 15$
- $x + 2y = 8$
- $2x + 3y = 18$
- $5x + 7y = 35$
- $bx + ay = ab$

6. *Sample Answer:* When $y = 0$, $x = a$. The y -term of the equation drops out, leaving (coefficient of x) $\cdot a =$ right side of equation. Similarly, when $x = 0$, $y = b$. The x -term drops out leaving: (coefficient of y) $\cdot b =$ right side of equation. Therefore, the right side of the equation must be divisible by both a and b . If I use ab for the right side of the equation, then I can make the coefficient of x be b and make the coefficient of y be a and the equations will work.

7. $\frac{3}{4}x + \frac{1}{2}y = 3$



- $(4, 0)$; Steve can make 4 trivets if he does not make any wooden spoons.
- $(0, 6)$; Steve can make 6 spoons if he does not make any trivets.
- Sample answer:* 2 trivets and 3 spoons