Worksheet: Direct variation **Name:**_____
Algebra II **Date:**_____

In the following, y varies directly as x. Find the constant of variation k and write the equation that relates the two variables.

1. $y = 15$ when $x = 5$

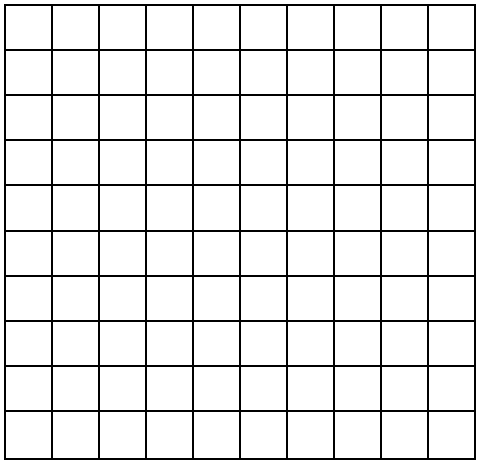
2. $y = -12$ when $x = 6$

3. $y = \frac{2}{3}$ when $x = \frac{1}{2}$

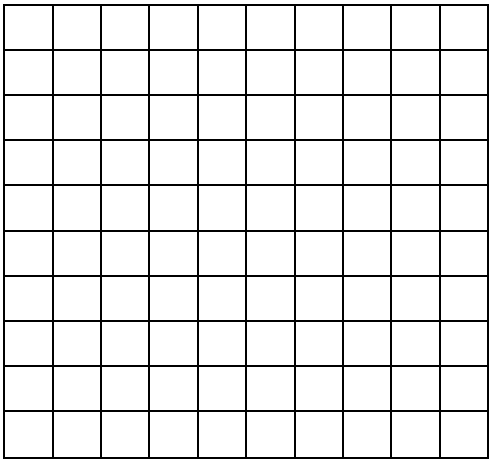
4. $y = 1.5$ when $x = 30$

Graph the following direct variation equations.

5. $y = 2x$



6. $y = -\frac{1}{3}x$



For question 7-10, assume that a varies directly as b.

7. If $a = 8$ when $b = 4$, find a when $b = 3$.

8. If $a = -3$ when $b = 12$, find a when $b = 32$.

9. If $a = 2$ when $b = 5$, find b when $a = 7$.

10. If $a = -4$ when $b = \frac{1}{3}$, find b when $a = 9$.

Solve each proportion for the given variable.

11. $\frac{5}{6} = \frac{x}{24}$

12. $\frac{-1}{5} = \frac{x}{15}$

13. $\frac{9}{10} = \frac{3}{b}$

14. $\frac{-5}{b} = \frac{3}{-8}$

15. $\frac{2}{5} = \frac{x+1}{30}$

16. $\frac{21}{7} = \frac{x-4}{2}$

17. $\frac{31.5}{b+10} = \frac{7}{2}$

18. $\frac{3}{10} = x + 2$