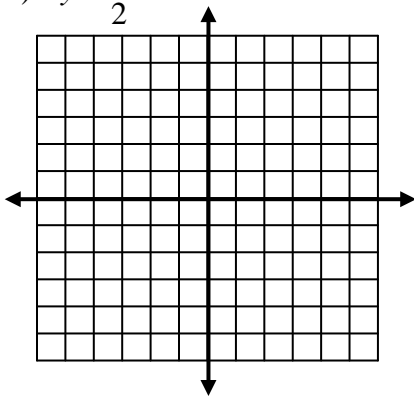
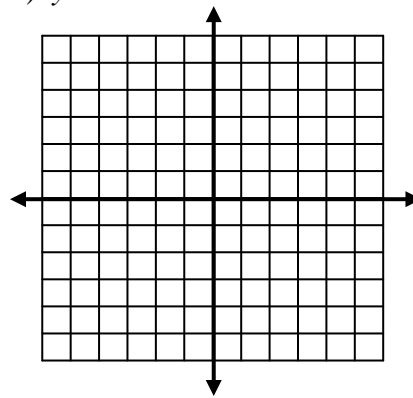


**Find the constant of variation for the following direct variation equations.**

1)  $y = \frac{1}{2}x$



2)  $y = 4x$



3) Circle the letter(s) next to the equation to identify the examples that are NOT of a direct variation.

- A)  $y = -\frac{7}{3}x + 1$       B)  $2y = -\frac{5}{16}x$       C)  $y - 2 = 4x$       D)  $y + 9x = 0$       E)  $y = x$

4) Name the constant of variation,  $k$ , for each equation

A)  $y = 5x$

$k =$  \_\_\_\_\_

B)  $y = \frac{1}{2}x$

$k =$  \_\_\_\_\_

C)  $y + \frac{2}{3}x = 0$

$k =$  \_\_\_\_\_

**Write a direct variation equation that relates to two variables. Then solve.**

5) Suppose  $y$  varies directly as  $x$ , and  $y = 16$  when  $x = 8$ . Find  $y$  when  $x = 16$ .

6) Suppose  $y$  varies directly as  $x$ , and  $y = 21$  when  $x = 3$ . Find  $x$  when  $y = 42$ .

7) Suppose  $y$  varies directly as  $x$ , and  $y = 9$  when  $x = \frac{3}{2}$ . Find  $y$  when  $x = 1$ .

8) If  $x$  and  $y$  vary directly, as  $x$  decreases, what happens to the value of  $y$ ?

9) If  $x$  and  $y$  vary directly, as  $y$  increases, what happens to the value of  $x$ ?

10) The distance from lightning varies directly with the time it takes you to hear thunder. If you hear thunder 10 seconds after you see the lightning, you are about 2 miles from lightning.

A) Write a direct variation equation for the relationship between time and distance

B) Estimate how many seconds it would take for the thunder to travel a distance of 4 miles.