

2-41. If $y=\frac{1}{2} x-4$ :
a. What is the slope of the line?
b. What is the $y$-intercept of the line?
c. Graph the line.


2-42. Without graphing, find the slope of each line described below
a. A line that goes through the points $(4,1)$ and $(2,5)$.
b. A line that goes through the origin and the point $(10,5)$.
c. A vertical line (one that travels "up and down") that goes through the point $(6,-5)$.
d. A line that goes through the points $(1,6)$ and $(10,6)$.

2-43. Ms. Cai's class is studying a tile pattern. The rule for the tile pattern is $y=10 x-18$. Kalil thinks that Figure 12 of this pattern will have 108 tiles. Is he correct? Justify your answer.

2-44. State the slope and $y$-intercept of each line.

| Slope |  |
| :--- | :--- |
| a. $y=\frac{5}{3} x-4$ | $y$-intercept |
| b. $y=-\frac{4}{7} x+3$ |  |
| c. $y=-5$ |  |

2-45. Evaluate the expressions below for the given values.
a. $-x^{2}+3 x$ for $x=-3$
b. $5-(x-2)^{2}$ for $x=-1$
c. $\frac{-5}{k+1}$ for $k=-1$
d. $\left|\frac{x}{x+y}\right|-x^{2}+y$ for $x=2, y=-3$

