1. (a) Plot the points $(-1, -2)$ and $(3, 0)$ on the following coordinate plane. Draw the line through these points.

(b) Find the slope of the line.

(c) Find the equation for the line.

(d) What is the $x$-intercept of the line (that is, where does the line cross the $x$-axis)?

(e) What is the $y$-intercept of the line (that is, where does the line cross the $y$-axis)?
2. (a) On the following coordinate plane, draw the line with slope \( m = -2 \) through the point (2, -1).

(b) Find the equation for the line.

(c) What is the \( y \)-intercept of the line?

(d) What is the \( x \)-intercept of the line?
3. Find the equations for the lines through the given points:

(a) \((2, -3)\) and \((1, 2)\)

(b) \((-1, 3)\) and \((1, 5)\)

(c) \((1, 2)\) and \((3, 2)\)

(d) \((-1, 3)\) and \((-1, 8)\)
4. At age 7, Megan has 18 friends. At age 9, she has 28 friends. Assume that the number of friends that she has is linearly related to her age.

(a) Write an equation for the number of friends she has at age $x$?

(b) How many friends do you expect her to have at age 15?

(c) At what age do you expect her to have 83 friends?
5. At age 3, little Jimmy is 36 inches tall. By age 5, he had grown to 41 inches tall.

(a) Assume that Jimmy’s height is linearly related to his age. Write an equation for his expected height at age $x$.

(b) How tall do you expect Jimmy to be at age 9?

(c) At what age do you expect Jimmy to be 6 feet tall.
6. Find the point of intersection of the following two lines:

\[
\begin{align*}
    x - 2y &= 7 \\
    5x + 3y &= -4
\end{align*}
\]