

**Series of lines - Examples****Example 1:**

**L1:** passes through points  $(-2, -9)$  and  $(7, 0)$ .

**L2:** is perpendicular to  $y = -\frac{1}{3}x - 7$  and passes through  $(-1, -10)$ .

**L3:** has a slope  $a=9$ , and a  $y$ -intercept of  $-7$ .

**Find the equation of L4.**

**Example 2:**

**L1:** has slope  $a=2$  and passes through  $(7, 13)$ .

**L2:** has an x-intercept of  $1/2$  and a y-intercept of  $-2$ .

**L3:** is parallel to  $y=6x+3$  and passes through  $(3, 15)$ .

**Find the equation of L5.**

**Example 3:**

**L1:** passes through (0, 2) and the solution of:

$$\begin{cases} y = 4x-4 \\ y = 3x-1 \end{cases}$$

**L2:** has a y-intercept of 4 and is perpendicular to  $y = \frac{1}{2}x - 3$ .

**L3:** has a slope  $a = -6$ , and passes through the midpoint of segment AB, where A(-2, 15) and B(4, -11).

**Find the equation of L4.**