Perpendicular Lines
Part 3
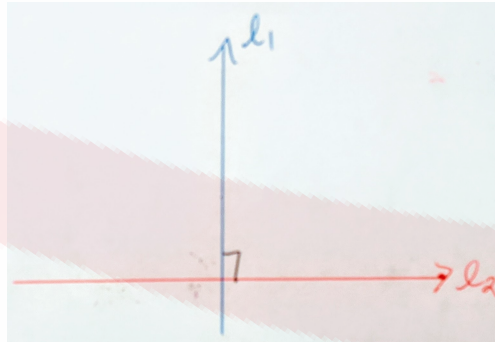
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Perpendicular Lines

What does perpendicuar mean? Two lines are said to be perpendicular when the angle between the two lines at the point of intersection is 90°, then the two lines are *perpendicular*.

How are the slopes of perpendicular lines related? If two lines l_1 and l_2 are perpendicular then the slope of l_1 is the negative reciprocal of the slope of l_2.

$$m_1 = -\frac{1}{m_2}$$

where m_1 is the slope of line l_1 and m_2 is the slope of line l_2.

Exercises

1. For each line below, find the equation of the line perpendicular to the line and through the origin.

   a) $y = -x - \frac{5}{2}$

   b) $y = \frac{7}{2}x + 2$

   c) $y = 3x - 1$

   d) $y = -2x + 6$

   e) $y = \frac{4}{5}x - 3$

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