

# **Finding Equations of Lines      $y = mx + b$**

	Ordered Pair	Slope/ Average Rate of Change	$Y = mx + b$
Given two points (0, 2) and (5, 17) find the equation of the straight line that passes through the two points.			
Given two points (-2, 8) and (2, 14) find the equation of the straight line that passes through the two points			
<i>In each instance below, the relationships are assumed to be linear.</i>			
The top speed a snowplow can travel on dry pavement is 30 miles per hour. With 8 inches of snow on the ground its maximum speed is 26 miles per hour.			
Salary in dollars for a Dept. of Public Works employee in Fitchburg after one year on the job is \$23,650. After 4 years on the job, the worker's salary is \$27,100.			
The median weight for baby girls 2 months old is 10 lbs. At the age of 6 months the median weight is 16 lbs.			
The median height for a 6 year old is 45 inches. The median height for a 12 year old is 60 inches.			
For a person weighing 160 lbs., their blood alcohol concentration is 0.047 after two drinks. After 6 drinks the blood alcohol concentration is 0.141. (A drink is defined as 5 oz. Wine. 1.25 oz. Of 80-proof liquor, or 12 oz. Beer.)			
The total cost heating a home with gas, including the furnace installation cost is \$7600 after 2 years and \$14,000 after 10 years.			



