

Math Q114 Linear Equations Abstract and Real

Abstract Equation: $y = mx + b$	Real World Example
Given a slope of 2 and y-intercept of $-1$ find the equation of the line.	The starting salary for sanitation workers in one mass. town is \$22,000 with an annual increase of \$2,500. Write an equation using S for salary and t for years employed.
Given a slope of $-0.5$ and y-intercept of $1.3$ find the equation of the line.	The daily cost of renting a car at one agency is \$27 plus 12 cents per mile. Write an equation using C for daily cost of rental and m for miles driven per day.
Find the equation of the line that has a slope of 2 and passes through $(-1, 3)$	The median height in inches of children between 2 and 12 years of age increase on average by 2.5 inches per year. If the median height of a 2-year old is 35 inches, write an equation expressing the relationship between height H and age A.
Find the equation of the line that has a slope of $-0.8$ and passes through $(5, -3)$	According to 1990 Census data, the median hourly wage for American adults increased by \$1.60 per hour for each additional year of education the person had completed. A person with 10 years of education had a median hourly wage of \$8.50 per hour. Write an equation expressing the relationship between hourly wage W and years of education E.
Find the equation of the line that passes through the points $(-1, 4)$ and $(4, -11)$ .	The median weight for baby girls 2 months old is 10 lbs. At the age of 6 months, the median weight is 16 lbs. Assume that there is a linear relationship between a baby girl's age in months M and her weight W. Write an equation for the relationship.
Find the equation of the line that passes through the points $(-3, -6)$ and $(9, 10)$ .	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. Assume that there is a linear relationship between the number of drinks consumed D, and a 160 lb. Person's blood alcohol content A. Write an equation for the relationship. (Note: A drink is defined as 5 oz. Wine. 1.25 oz. Of 80-proof liquor, or 12 oz. Beer.)

