MATHEMATICS 30-3 Online
Formula Sheet

Graphing

$$m = \frac{\text{rise}}{\text{run}}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$y = mx$ where m is the slope

$y = mx + b$,
where m is the slope, or rate of change,
and b is the y-intercept

Statistics

$$\overline{x} = \frac{\text{sum of the values in the data set}}{\text{total number of values in the data set}} = \frac{x_1 + x_2 + x_3 + ... + x_n}{n}$$

$$\overline{x} = \frac{\text{sum of the values in the data set}}{\text{total number of values in the data set}} = \frac{w_1(x_1) + w_2(x_2) + w_3(x_3) + ... + w_n}{w_1 + w_2 + w_3 + ... + w_n}$$

$$\text{percentile rank} = \frac{b}{n} \times 100\%$$

Probability

$$\text{probability} = \frac{\text{number of favourable outcomes}}{\text{total number of possible outcomes}}$$

odds in favour = number of favourable outcomes : number of unfavourable outcomes

prediction of favourable outcomes = probability × total number of outcomes

Finance

total cost of a loan = monthly payment × number of monthly payments

total amount paid = down payment + total cost of loan

interest = total cost of loan − inital cost of loan

total cost of a lease = monthly payment × number of monthly payments

depreciation = initial cost of vehicle − present value of vehicle

penalty = cost/km × extra km driven

cost = fuel price × fuel consumption × distance

total cost = fixed costs + variable costs

net income = revenue − expenses