Federal Way Public Schools

Standards-Based Education
Priority Standards

Cambridge PreAICE Math

10th Grade

PS 1	Demonstrate familiarity with Cartesian co-ordinates in two dimensions and interpret and use graphs in practical situations including travel graphs and conversion graphs.
PS 2	Apply the idea of rate of change by using distance-time and speed-time graphs, acceleration and deceleration, and calculate distance traveled as area under a speed-time graph.
PS 3	Use function notation to describe simple functions, evaluate a function for a given domain, and find the inverse of functions.
PS 4	Form composite functions as defined by $gf(x) = g(f(x))$.
PS 5	Construct tables of values for functions and draw and interpret the graphs of linear, quadratic, cubic, and reciprocal functions.
PS 6	Find the gradient of a straight line graph and estimate gradients of curves by drawing tangents; solve associated equations by graphical methods.
PS 7	Use the laws of indices to simplify expressions involving indices, including the zero index.
PS 8	Evaluate fractional indices and solve exponential equations that can be rewritten with equivalent bases.
PS 9	Apply the Pythagorean theorem and the sine, cosine, and tangent ratios to solve for missing elements of a triangle and for three-figure bearings measured clockwise from the north.
PS 10	Solve trigonometrical problems in two and three dimensions including angles of elevation and depression; use sine and cosine rules; and finding the area of a triangle by using trigonometric principles.
PS 11	Recognize and describe reflections, rotations, translations, enlargements, shears, stretches, and their combinations.
PS 12	Identify and give precise descriptions of transformations connecting given figures; describe transformations using coordinates and matrices.
PS 13	Understand and use mean, median, mode and correlation; estimate the median, percentiles, quartiles and inter-quartile range; calculate an estimate of the mean for grouped and continuous data; identify the modal class from a grouped frequency distribution.
PS 14	Construct and read histograms with equal and unequal intervals; construct and use cumulative frequency diagrams.
PS 15	Calculate the probability of a single event and simple combined events, using possibility diagrams and tree diagrams where appropriate.
PS 16	Apply procedures for counting techniques such as the fundamental counting principle, permutations, and combinations and use those to calculate probabilities.
PS 17	Convert between exponential and logarithmic form and expand or condense expressions using log rules.
PS 18	Solve problems that can be represented by exponential or logarithmic equations.
PS 19	Generate a unit circle and use it to evaluate trigonometric ratios and convert between radians and degrees.
PS 20	Know and apply trigonometric identities and use them to solve problems containing trigonometric functions.
PS 21	Distinguish between arithmetic and geometric sequences and write an expression for the general term of arithmetic and geometric sequences.
PS 22	Find the partial sums of arithmetic and geometric series and infinite geometric series where appropriate.