I Function properties - Exercise 1.

a) f of x equals x square plus x minus two.

b) g of x equals sine of: open bracket, x plus pi, close bracket.

c) h of x equals one fourth x minus two fifths.

I Function properties - Exercise 2.

a) The graph of the cosine function is symmetric relatively to the OX axis, but it is not symmetric relatively to the origin of the coordinate system.

b) To obtain a graph of function f of x plus three, we need to move the graph of function f of x upwards by three units.

II Polynomials - Exercise 1.

a) The coordinates of the tip of this parabola are minus one and two.

b) To obtain a graph of the function minus f of x, we need to revolve the graph of function f of x around the OX axis.

c) What are the roots of equation: x square plus three x minus seventeen equal to zero?

d) Calculate the quotient and the remainder of division of the polynomial x cubed plus two x squared plus three x plus four by x square minus twelve.

e) For which value of parameter m does this quadratic function have exactly two roots?

II Polynomials - Exercise 2.

a) The square root of ten x plus eight equals eight minus x.

b) The fifth root of x minus three is lesser than minus two.

c) The square root of one minus the square of two x over one plus x square.

IV Trigonometric functions - Exercise 1.

a) The tangent function has asimptotes for x equal to pi half plus k pi for k belonging to the integer set.

b) If alpha is an angle in a right triangle, then the sine of alpha is a ratio of one of the triangle legs and the hypotenuse.

c) The arc sine function is an inverse of the sine function in the closed interval of minus pi half, pi half.

IV Trigonometric functions - Exercise 2.

a) The arc cosine of the square root of two over two plus the arc tangent of minus one.

b) The square root of one minus x square minus two times the natural logarithm of sine of x.

c) Sine square of alpha plus cosine square of alpha equals one.