ALGEBRA TEST

Exercise 1: (1 point) Write the following statements using algebraic language:
   a) The half of a number minus thirteen
   b) The cube of a number plus its square
   c) Two consecutive numbers
   d) The product of three numbers

Exercise 2: (1 point) Work out:
   a) $x^2y + 5xy^2 - 3x^2y + 7xy^2 =$
   b) $a^2 - 5a + 7 + 5a^2 - 8a - 4 =$
   c) $3x^3 - 5x^2 =$

Exercise 3: (1.25 points) Indicate the coefficient, the literal part and the degree of the following monomials:

   a) $-\dfrac{2}{3}x^4yz^5$ c) $-w$

   b) abc d) t^{-2}

Exercise 4: (1 point) Solve the following equations:

   a) $\dfrac{5x}{6} = 10$

   b) $14x + 7 = 0$
   c) $8x - 4 = 3x + 9$

Exercise 5: (2 points) Solve the following equations:
   a) $3x - 7 - 4x + 8 = 9 - 5x - 2$
   b) $5(3x - 4) = 7(2 - x)$
   c) $2(6x - 4) - (x - 6) = 1 + 4(x + 5)$
   d) $5(3x + 2) - 3(x - 6) = 6x + 2(3x - 1)$

Exercise 6: (1.25 points) Work out the numerical value of the polynomial $P(x) = x^3 - 5x^2 + 7x - 5$
   a) When $x = 2$
   b) When $x = -1$

Exercise 7: (0.75 points) The triple of a number minus five equals the double of the consecutive of that number plus ten. Write the equation and find the number.

Exercise 8: (0.75 points) In an isosceles triangle the base is seven cm longer than the other two equal sides and the perimeter is forty six cm. Find its dimensions.

Exercise 9: (1 point) Work out:
$$\frac{x+3}{2} - \frac{2x-4}{5} = x + \frac{5-x}{6}$$