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) $-\frac{2}{3}x^4yz^5$
b) abc
c) $-w$
d) t^{-2}

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

a) $\frac{5x}{6}=10$
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:

$$\frac{x+3}{2}-\frac{2x-4}{5}=x+\frac{5-x}{6}$$