St. Anthony's High School Faisal Town Lahore

Holidays Homework: Mathematics

Total Marks: 50   **Class: 9A**

<u>**Instructions:**</u>

1. Kindly use assignment sheets.
2. Presentation should be very neat and clean.

Q1. Write the short answers to the following questions.

   i.   Find the product $\begin{bmatrix} -3 & 0 \end{bmatrix}\begin{bmatrix} 4 \\ 0 \end{bmatrix}$

   ii.   Factorize $x^2 + x - 132$

   iii. Rationalize the denominator of $\frac{58}{7-2\sqrt{5}}$

   iv. Express in scientific notation 0.00074

   v.   Find the value of i^{27}

   vi. If $A = \pi x^2$ find A when $\pi = 22/7$ and r=15

   vii. Find a,b,c and d which satisfy matrix equation $\begin{bmatrix} a+c & a+2b \\ c-1 & 4d-6 \end{bmatrix}\begin{bmatrix} 0 & -7 \\ 3 & 2d \end{bmatrix}$

   viii. Simplify $\sqrt{21} \times \sqrt{7} \times \sqrt{3}$

   ix. Find the H.C.F $102xy^2z, 85x^2yz, 187xyz^2$

   x.   Fond the value of x: $log_x 64 = 2$

Q2. Solve the following questions.

   i. solve the linear equation by Cramer's Rule. $2x + y = 3$; $6x + 5y = 1$

   ii. Simplify $\left(\frac{a^{2l}}{a^{l+m}}\right)\left(\frac{a^{2m}}{a^{m+n}}\right)\left(\frac{a^{2n}}{a^{n+l}}\right)$

   iii. Use log table to find the value of $\frac{0.678 \times 9.01}{0.0234}$

   iv. Factorize $4x^2 - 17xy + 4y^2$

   v. If $x + y + z = 12$ and $x^2 + y^2 + z^2 = 64,$ then find the value of $xy + yz + zx$.

   vi. Find what value of k is $(x + 4)$ the H.C.F of $x^2 + x - (2k + 2)$ and $2x^2 + kx - 12$.

   vii. Find the value of k for which the following expressions will become a perfect square.

$$x^4 + 4x^3 + 16x^2 + lx + m$$