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SENIOR FIVE END OF TERM ASSESSEMENT

SUB MATH

TIME: 2 HOUR

**Instructions**

* Attempt all questions in both sections

**SECTION A**

1. given that matrix Q = $\left(\begin{matrix}-1&1\\3&2\end{matrix}\right)$ and P = $\left(\begin{matrix}1&2\\4&5\end{matrix}\right)$ find R1 = P + Q and R2 = 2P + 3Q (5 marks)
2. Evaluate the following
3. $\left(\frac{27}{64}\right)^{\frac{2}{3}}$
4. $\left(81\right)^{\frac{3}{4}}$
5. $\left(16\right)^{\frac{3}{4}}$
6. solve the following pairs of simultaneous equations

4x – 2y = 2

3x – 2y = 5

1. By changing the base from r to q, prove that $log\_{r}p=\frac{log\_{q}p}{log\_{q}r}$

**SECTION B**

1. the table below shows the marks obtained by 60 students in a math test of a certain school

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks(%) | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 |
| No ofstudents | 10 | 6 | 10 | 15 | 5 | 3 | 4 | 3 |

1. draw a histogram and use it to estimate the mode
2. calculate the mean
3. a student made the following purchase, from a local stationary shop at the beginning of a school year. 10 exercise books at 250/=each, 6 ball points at 200 /= each and 2 pencils at 100/=.
4. Prepare a 1 x 3 row matric giving the number of each item purchased
5. Prepare a 3 x 1 column matrix of the respective unit prices of items purchased
6. Find the amount of money spent by the student by using matrix multiplication.

END

“**What man can do man can”**