

Entrance examination – 2082

Subject: Mathematics

Class: 8

FM: 25

Time: 45 mins

Attempt all the questions.

1. If  $P = \{ \text{prime numbers less than 8} \}$   $Q = \{ \text{odd numbers less than 8} \}$  and  $R = \{ \text{square numbers between 3 and 10} \}$  are given then
  - a. List out the elements of set P, Q and R. (2)
  - b. Write the subsets of R (1)
2. Simplify:  $3\frac{4}{6} - 1\frac{2}{3}$  (3)
3. a. Find the HCF of 18 and 24 (1)
4. Simplify:  $2\{2 - 2(2 \div 2 - 2) \div 2\} \div 2$  (2)
5. a. Mr. Riway bought a cycle for Rs.10,000 and sold it at 10% profit.
  - i) Find his amount (ii) Find the selling price. (2)
6. a. Simplify:  $X^{a-b} \cdot X^{b-c} \cdot X^{c-a}$  (2)
7. a. Simplify:  $(2a+2b)^2 - 4ab$ . (2)  
b. Solve:  $2(3x+4) = 5(2 + x)$  (2)
8. a. Find the mean of first five even numbers . (2)
9. a. A rectangular park is 20m long and 15m broad. Find its area and perimeter. (2)  
b. Find the total surface area and volume of a cube having length 7cm. (2)
10. If  $(2x - 10)^\circ$  and  $(3x + 20)^\circ$  are in linear pair find them.

THE END