

GREENLAWNS HIGH SCHOOL
TERMINAL EXAMINATION 2017-18

SUB : MATHEMATICS
TIME : 2 HOURS

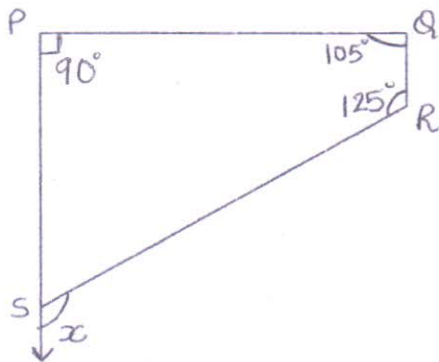
CLASS : VIII
MARKS : 80

Be neat and show rough work on the same page in a column on the right hand side of your page.

Section I – 40 marks

(All questions are compulsory)

Q.I. a) Find the value of 'x' in the figure given below: [4]



b) Factorise completely : $32a^2b^2 - 18$ [3]

c) Arrange the rational numbers $\frac{-7}{10}$, $\frac{-5}{8}$ and $\frac{-3}{4}$ in ascending order. [3]

d) Simplify : $(x + 3)(x - 3)(x^2 + 9)$ [4]

e) Find the square root of 0.00059049 by division method. [3]

f) The ages of Ruby and Rosh are in the ratio 5:7. Four years later, their ages will be in the ratio 3:4. Find their present ages. [3]

g) Subtract $6x^2y - 9xy^2 + 3xy - 5$ from the sum of $-3x^2y + 2xy + 4$ and $x^2y - 2xy^2 - 5xy$. [4]

h) Evaluate : $36^{-\frac{1}{2}} \times 8^{\frac{2}{3}} \times 9^{\frac{3}{2}}$ [3]

i) List the elements of the following set: [4]

1) $A = \{x/x \text{ is a letter in the word 'COMMITTEE'}\}$

2) Find $n(A)$

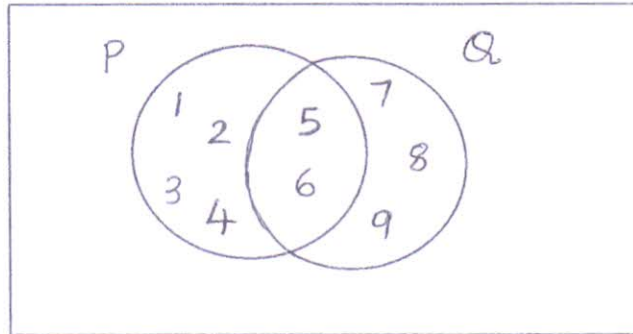
3) If $B = \{x/x \text{ is a letter in the word 'COSMIC'}\}$

Is B a subset of A?

4) What is $A \cap B$?

j) Draw a parallelogram ABCD in which AB = 4 cm, BC = 3cm and $\angle ABC = 120^\circ$. Measure diagonal AC. [3]

k) Observe the given Venn Diagram and answer the questions that follow: [3]



Write the sets (i) $P \cup Q$ (ii) Q (iii) $P \cap Q$

e) Using identities, evaluate $(0.99)^2$ [3]

Section II – 40 marks

(Attempt any 4 questions)

2a) Using set $U = \{x/x \leq 10, x \in \mathbb{N}\}$ [4]

$$A = \{1, 3, 5, 7, 9\}$$

$$B = \{2, 4, 6, 8\}$$

$$C = \{2, 3, 5, 4, 6\}$$

Verify that $A \cap (B' \cup C') = A \cap (B \cap C)'$

b) The angles of a quadrilateral are in the ratio 3:5:4:3. Find all its angles. [3]

c) Construct a triangles ABC with AB = 6cm, BC = 6.6 cm and CA = 7 cm. [3]
Draw its circumcircle and measure and write the circumradius.

Q.3. a) Solve: $\frac{y-(7-8y)}{9y-(3+4y)} = \frac{2}{3}$ [4]

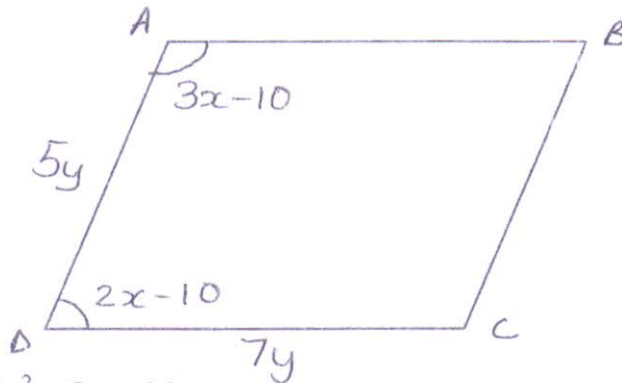
b) Write the additive inverse and multiplicative inverse of the given numbers. (Use tabular form) [3]

i) $\frac{-3}{4}$ ii) $\frac{-1}{9}$ iii) 5

c) Divide $16m^3 - 46m^2 + 39m - 9$ by $8m - 3$ [3]

Q.4. a) Find the cube root of $\frac{287496}{343000}$ [4]

b) In the adjoining parallelogram ABCD, find side AB if its perimeter is 96 cm. [3]
Also find $\angle c$.



c) Factorise : $3x^2 + 8x - 16$ [3]

Q.5. a) Evaluate : $9^{\frac{5}{2}} \times 27^{\frac{4}{3}} \div 81$ [4]

b) Expand : (i) $(3x - 7y + z)^2$ [3]

(ii) $(3a + \frac{4}{a})^2$

c) Simplify : $15 m^8 n^3 \div 3 m^4 n$ [3]

Q.6. a) Solve : $\frac{x+1}{5} - \frac{3(x-1)}{10} = 2$ [4]

b) Factorise : i) $16x^5 - 144x^3$ [4]

ii) $P^2 + 6p - 16$

c) Construct a square whose diagonal measures 4.8 cm. Measure its side and write it. [2]