

**GREENLAWNS HIGH SCHOOL
FINAL EXAMINATION**

13-02-2023

SUBJECT : Mathematics

CALSS : VII

TIME : 2 hours

MARKS : 80

**This paper consists of two sections A & B.
Attempt all the questions from both the sections.
Show the calculations on the same page.**

Section – A

Q.1 Fill in the blanks :

10

a. Degree of the polynomial $5ab^2 + 5a^2b - 7a^3b^4$ is _____

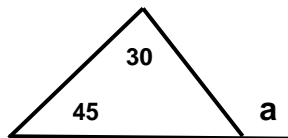
b. Allied angles add upto _____

c. Ratio $3\frac{1}{3} : \frac{7}{9}$ in its simplest form is _____

d. Complement of $25^\circ 30'$ is _____

e. Express $(2^0 + 3^2)^{-2}$ as positive power. _____

f. In the figure drawn alongside
the value of 'a' is _____



g. If $\frac{3}{8}P = 9$, then value of P = _____

h. $p^2q \times 2pq^2 \times 3p^2q^2 =$ _____

i. $5x^2y^3 \div 25x^3y^2 =$ _____

j. The mean proportion between 25 and 36 is _____

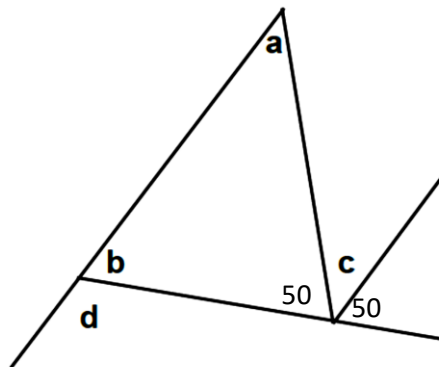
Question 2

a. If $a = 5$ and $b = 3$, find the value of $(b - a)^5$. 2

b. If $125 \times 64 = 5^x \times 4^y$, find the values of x and y . 2

c. Find the cost of fencing a circular garden with radius 63m, at the rate of Rs.10 per meter. 2

d. Find **a**, **b**, **c** and **d** in the given figure stating geometrical properties used. 4



Question 3

a. The acute angles of a right-angled triangle are in the ratio 1:4. Find the acute angles of the triangle. 2

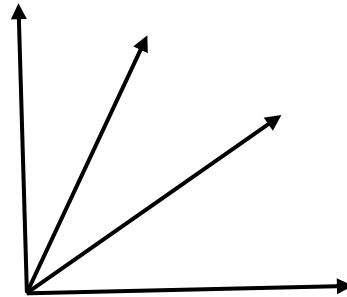
b. Express the ratio in the simplest form : 20 min : 5 hours 2

c. Subtract : $5a + 12b$ from $4a - 16b + 2c$ 2

d. Length of wire required for fencing a rectangular plot is 300 m. Find the length and breadth of a plot, when length is 2 times the breadth. 4

Question 4

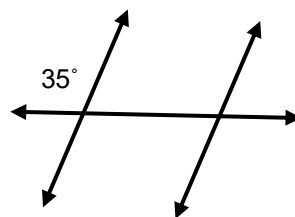
- a. Express 2200 in exponential form. 2
- b. Divide $6x^2 - 2x$ by $2x$ 2
- c. Solve the following : $12P + 72 = 12$ 2
- d. In the figure along side find the value of x , hence calculate the $\angle ABD$ and supplement of $\angle ABD$. 4



SECTION B

Question 5

- a. Using only a compass and a ruler, Draw a perpendicular bisector of line segment AB measuring 10cm. 3
- b. Find the angles and state the reasons : 3



- c. $(2x^3 - 5x^2 - 8x + 15) \div (x - 3)$ 4

Question 6

- a. Evaluate : $(x - 2b) (2x + 5b)$ 3
- b. If $a : b = 5 : 4$ and $b : c = 3 : 7$ find $a : b : c$. 3

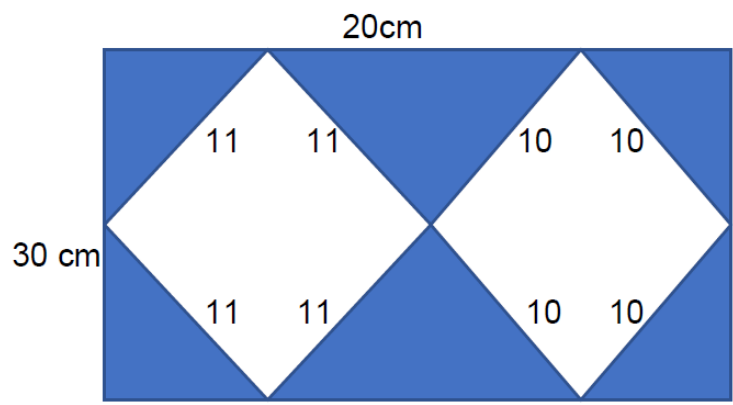
- c. Draw an $\angle PQR$ measuring 135° and bisect the $\angle PQR$. 4
Use only compass and ruler to construct angle and its bisector.

Question 7

- a. Solve using law of exponents : $7^6 \div 7^4 + (5 \times 5^2) - (3^2)^0$ 3
- b. The vertical angle of an isosceles triangle is 45° more than each of its base angles. Find each angle of the triangle. 3
- c. A 250g cake is divided among three children such that first child gets one-fifth of the third child and second child get four-fifth of the third child. Find the share of second and third child. 4

Question 8

- a. Find the area of the shaded region in the figure given below. 3



- b. $20 - 2(3 - 3x) = 4(x + 5) - 14$ 3
- c. A mother's age is 3 times that of her son. After 20 years, she will be twice as old as her son at that time. Find their present ages. 4