

GREENLAWNS HIGH SCHOOL

FINAL EXAMINATION 2021

STD IX

SUBJECT – MATHEMATICS

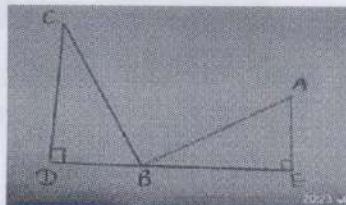
TIME 1 HOUR 15 MIN

MARKS -40

(Attempt all Questions)

Question 1

- a) In the figure drawn below $AB = 17\text{cm}$, $AE = 8\text{cm}$, $BC = 26\text{cm}$ and $CD = 24\text{cm}$, find the length of DE . (3)

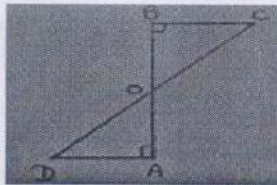


- b) The diameter of a circle is 58 cm. A chord is at a distance of 21cm from the center of the circle. Find the length of the chord. (3)
- c) Given below is the weekly pocket money given to a group of children. Draw a frequency polygon for the given distribution. (4)

Weekly pocket money (in Rs)	70 - 80	80 - 90	90 - 100	100 - 110	110 - 120
No. of children	10	15	18	22	16

Question 2

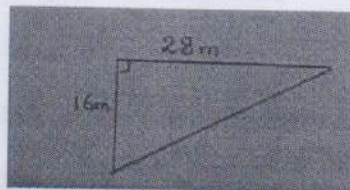
- a) Evaluate $(\sin 90^\circ + \sin 45^\circ + \sin 30^\circ)(\cos 0^\circ - \cos 45^\circ + \cos 60^\circ)$ (3)
- b) In the figure drawn below $AD = BC$. Prove that O is the midpoint of AB (3)



- c) The weights of 7 children (in kg) are 26, 36, 36, 28, 33, 33 and 25. Find their Mean weight and Median weight. After a year it was found that they all gained 4kg each. What will be their new Mean weight? (4)

Question 3

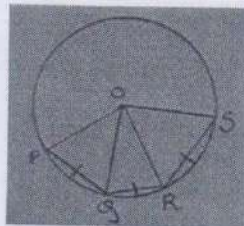
- a) Evaluate $\frac{\cos^2 36^\circ}{\sin^2 54^\circ} + \frac{\tan 47^\circ}{\cot 43^\circ} + \sin^2 45^\circ$ (3)
- b) The figure drawn below is a garden whose shape is a right angled triangle. Find the cost of mowing the garden at the rate of Rs 21 per m^2 . (3)



- c) Two parallel chords in a circle of length 80cm and 96cm are at a distance of 44cm from each other. If they lie on the opposite side of the center, calculate the radius of the circle. (4)

Question 4

- a) If $\cos \theta = \frac{9}{41}$ find $\sin \theta$ and $\tan \theta$ (3)
- b) In the figure drawn below O is the center of the circle, $PQ=QR=RS$ and angle $POQ = 40^\circ$ (3)
find
- Angle ROS
 - Angle POS
 - Angle OPQ



- c) The dimensions of a cuboid are in the ratio 4:2:3, if the total surface area is $1300cm^2$ find (4)
the dimensions of the cuboid and hence its volume.