GREENLAWNS HIGH SCHOOL

STD 8 **TERMINAL EXAMINATION** **80M**

Time 2 hours **Mathematics** **2024**

Attempt all questions from <u>Section A</u> and from <u>Section B</u>. All working including rough work must be clearly shown and done on the same page as the rest of the answer. Omission of essential steps will result in loss of marks.

SECTION A

(Attempt all questions from this section)

QUESTION 1

Choose the correct answers to the questions from the given options **(15)**

i) $\sqrt{0.0009}$ is
   a) 0.3
   b) 0.03
   c) 0.003
   d) 3

ii) $(-5)^3$ is
   a) 125
   b) 12.5
   c) -125
   d) 25

iii) For a regular polygon which of the following statements are true
   a) All sides are equal
   b) All interior angles are equal
   c) All exterior angles are equal
   d) All of the above

iv) $a^2 \times b \div c + 2y$ is a
   a) Monomial
   b) Binomial
   c) Trinomial
   d) Polynomial

v) In $-8x^3y^2z$ the coefficient of x^3 is
   a) $-8y^2z$
   b) $8y^2z$
   c) $8yz$
   d) $-8yz$

vi) When a^2b is multiplied by a^3b^2 we get
   a) a^4b^4
   b) ab
   c) a^5b^3
   d) a^3b^5

vii) When $4p^2 - 25q^2$ is factorized we get
a) $(4p + 25q)(4p-25q)$
b) $(2p + 5q)(2p - 5q)$
c) $(2p + 5q)(2p + 5q)$
d) $(2p - 5q)(2p - 5q)$

viii) $(a + b)^2$ is
a) $a^2 + 2ab + b^2$
b) $a^2 - 2ab + b^2$
c) $a^2 + 2ab - b^2$
d) $b^2 + 2ab - a^2$

ix) $(x +5)(x+3)$ is
a) $x^2 - 8x - 15$
b) $x^2 + 8x - 15$
c) $x^2 - 8x + 15$
d) $x^2 + 8x + 15$

x) When $2p^4 q^3$ is divided by $- p^2 q^2$ we get
a) $2p^2q$
b) $- 2p^2q$
c) $2pq^2$
d) $-2pq^2$

xi) If $2(x -3) = 8$ then the value of x is
a) 7
b) -7
c) 1
d) -1

xii) If the interior angle of a polygon is 110° then the exterior angle will be
a) 50°
b) 60°
c) 70°
d) 80°

xiii) If a regular polygon has 20 sides then each exterior angle will measure
a) 18°
b) 20°
c) 180°
d) 160°

xiv) $\sqrt[3]{1331}$ is
a) 9
b) 13
c) 11
d) 17

xv) A polygon with 8 sides is called
a) Hexagon
b) Heptagon
c) Octagon
d) Nonagon

QUESTION 2

a) Find the square root of 34.4569 correct to 1 decimal place. (4)

b) Evaluate (4)

   i) $(2x + y + 3z)^2$

   ii) $(4p + 2q)^2$

c) Three numbers are in the ratio 4:5:6 and their sum is 210. Find the numbers (4)

QUESTION 3

a) The angles of a pentagon are in the ratio 2:3:3:4:6, find each angle (4)

b) Divide $6x^3 + x^2 - 26x - 21$ by $3x - 7$ (4)

c) Solve the following simultaneous equations (5)

   $199x + 201y = 601$

   $201x + 199y = 599$

SECTION B

QUESTION 4

a) Find the cubes of the following (3)

   i) 13

   ii) 1.9

   iii) $\dfrac{2}{3}$

b) Solve $20 - 3(x-7) = x + 21$ (3)

c) Factorise

   i) $10x^3y^2 + 15x^2y - 25xy^2$

   ii) $x^4 - x^3 - xy + y$ (4)

QUESTION 5

a) If the interior angle of a polygon is 5 times the exterior angle, calculate the value of (3)

   i) Each interior angle   ii) Each exterior angle

b) Subtract the sum of $x + 2y + 3z$ and $2x - y + z$ from $5x - 3y + 2z$ (3)

c) Solve the following simultaneous equations (4)

   $2x + 4y = 16$

   $2x + 8y = 8$

QUESTION 6

a) Find the square root of 44100 by splitting into prime factors (3)

b) If the interior angles of a hexagon are 90°, 120°, 140°, $(3x+2)°$, $(2x+3)°$ and $(x+5)°$ Find x (3)

c) Evaluate (4)

   i) $(2x + 5)(2x - 5)$

   ii) $(3a - 4b)^2$

QUESTION 7

a) Factorise $3p^2 + 11p + 10$ (3)

b) Evaluate using a suitable identity (3)

   i) 97^2 ii) 21×19

c) Solve $\dfrac{4x+1}{3} + \dfrac{2x-1}{2} = 3$