Yuvraj

FIRST TERM EXAMINATION – 2017-18
MATHEMATICS / Class – VIII

Time allowed: 3 hrs MM 80

- All questions are compulsory.
- Section A: Q1 to Q6 – 1 mark each. Section B: Q7 to Q12 – 2 marks.
  Section C: Q13 to Q 22 – 3 marks each. Section D: Q23 – Q30 4 marks each.

SECTION A

Q1 Find the product of $(1.4a^2b)(\frac{1}{2}abc^2)$

Q2 Simplify and express as a positive exponent $\left[\left(-\frac{2}{3}\right)^{-3}\right]^4$

Q3 Solve for 'a' if $7+2(a+1)=5a$

Q4 A dice is thrown, find the probability of getting a number greater than 3 but less than or equal to 5.

Q5 Write multiplicative inverse of $\left(\frac{-15}{8}\times\frac{16}{27}\right)$

Q6 Size of a plant cell is 0.000001275cm. Express this number in standard form.

SECTION B

Q7 Find 4 rational numbers between $^1/_3$ and $^1/_6$

Q8 Simplify and arrange the following numbers in ascending order.

$(.5)^2, \sqrt{.49}, \sqrt[3]{.008}, 0.28$

Q9 Find all members of a Pythagorean triplet if one member is 18.

Q10 Angles of a quadrilateral are in the ratio of 2:3:4:6. Find all the angles.

Q11 Find the value of 'n' if $(5)^{n+2} = 625$

Q12 Using algebraic identity find the value of 'x' if $13x=(58)^2-(45)^2$

SECTION C

Q13 Plot $\frac{-2}{3}$ and $\frac{8}{3}$ on the same number line.

Q14 Find the least number which should be added to 9598 to make it a perfect square.

Q15 Sum of three consecutive multiples of 11 is 363. Find the multiples.

Q16 Find the least square number which is completely divisible by 16, 18 and 45.

Q17 Perimeter of a triangle is $(7p^2-8p+9)$ and its two sides are $(2p^2-p+1)$ and $(11p^2-3p+5)$. Find the third side of triangle.

Q18 The organisers of a quiz competition decide that winner gets a prize of ₹150 and a participant who does not win gets ₹30. If total money distributed is ₹5880 and total number of participants is 100, find the number of winners.

Q19 Simplify: $\frac{(4)^{-3}\times(14)^{-7}\times 216}{(7)^{-5}\times(8)^{-3}}$

Q20 Find length of the side of a square whose area is 40.96m^2. Also find perimeter of square.

Q21 Find cube root of 21952 by estimation method and verify your answer by prime factorisation method.

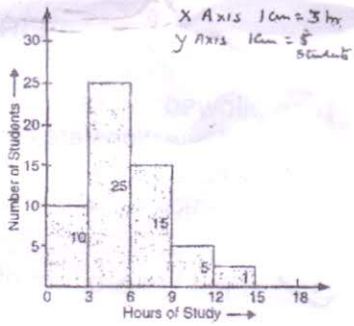
10B

Q22 For the histogram shown alongside answer the following questions:

a) Find the total number of student surveyed

b) Which time interval has maximum number of student studying?

c) How many times the number of students in time interval (6–9) hrs, greater than in time interval (9–12) hrs?



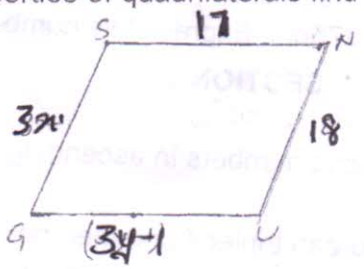
SECTION D

Q23 Simplify and solve the following linear equation

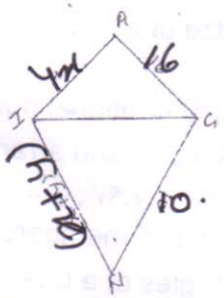
a) $15(y-4)-2(y-9)+5(y+6)=0$ b) $\frac{x+1}{2x+3}=\frac{3}{8}$

Q24 Find the least number by which 17496 must be divided so that the quotient is perfect cube. Also find cube root of the number so obtained.

Q25 Using properties of quadrilaterals find 'x' and 'y'. (Mention the properties used)



a) GUNS is a parallelogram



b) AGNI is a kite

Q26 A box contains 72 coloured balloons. Following table shows different coloured balloons. Draw a pie graph from given data.

Colour	Red	Yellow	Green	Blue
No. of balloons	12	24	20	16

Q27 a) Find measure of each exterior angle of a regular polygon having 15 sides.

b) Find number of sides of a regular polygon whose each interior angle is 135°.

Q28 Simplify $\left(-\frac{4}{5}\times\frac{15}{8}\right)\div\left(-\frac{1}{3}\div\frac{7}{9}\right)-\left(\frac{2}{9}\times\frac{27}{4}\right)$

Q29 Find the product using algebraic identity

a) $(ab+9)(ab+9)$ b) $(x-10)(x-6)$

Q30 a) 'Plant Trees and Save Environment' event was organised in a school. Children planted sapling and observed their growth. Heights (in cm) of 40 plants after a month are given below. Prepare a frequency distribution table, taking a class interval as 70–75 (75 not included)

78	80	66	78	58	76	58	56
62	68	59	76	69	82	60	72
68	67	64	58	70	67	63	59
78	72	62	60	71	59	74	67
69	71	73	74	68	80	82	73

b) What values are depicted by children who participated in this event?