HALF YEARLY EXAMINATION, 2017-18

MATHEMATICS

Time : 3 hrs. **Class - VIII** **M.M. : 80**

Name of the student _____Section _____ Date – 14.09.2017 (Thursday)

General Instructions :

- The question paper comprises 30 questions divided into four sections.
- All questions are compulsory to attempt.
- Section A comprises 6 questions of 1 mark each.
- Section B comprises 6 questions of 2 marks each.
- Section C comprises 10 questions of 3 marks each.
- Section D comprises 8 questions of 4 marks each.
- Draw a neat diagram wherever needed. Show calculations in fair.
- Use of calculator is not permitted.

SECTION-A

Q.1 Write the rational number which is equal to its negative.

Q.2 Solve the following equation: $\frac{2x}{3} = 18$

Q.3 What is a regular polygon? State the name of a regular polygon of 6 sides?

Q.4 How many numbers lie between squares of the following numbers?

99 and 100

Q.5 State true or false :

The cube of a single digit number may be a single digit number.

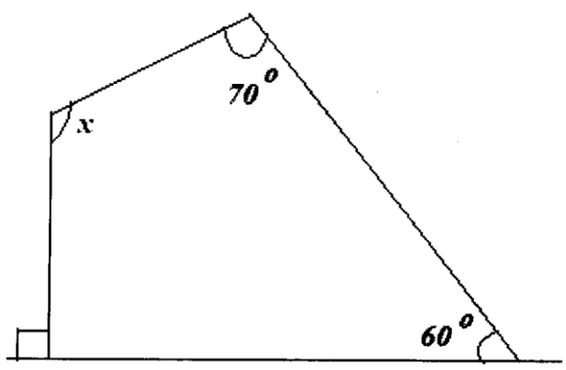
Q.6 Add the following :

ab – bc, bc – ca, ca – ab

SECTION - B

Q.7 There is a narrow rectangular plot, reserved for a school, in Mahuli village. The length and breadth of the plot are in the ratio 11:4. At the rate Rs. 100 per meter it will cost the village panchayat Rs. 75000 to fence the plot. What are the dimensions of the plot.

Q.8 Find the angle measure x in the following figure:



Q.9 Construct the following quadrilateral ABCD

AB=4.5cm, BC=5.5cm, CD=4cm, AD=6cm, AC=7cm

Q.10 Express 121 as the sum of 11 odd numbers.

Q.11 Find the smallest number by which 256 must be divided to obtain a perfect cube.

Q.12 Obtain the product of *m, –mn, mnp.*

SECTION-C

Q.13 Represent $\frac{7}{4}$ on the number line.

Q.14 The sum of three consecutive multiples of 11 is 363. Find these multiples.

Q.15 Find the measure of each exterior angle of a regular polygon of 15 sides.

Q.16 The denominator of a rational number is greater than its numerator by 8. If the numerator is increased by 17 and the denominator is decreased by 1, the number obtained is $\frac{3}{2}$. Find the rational number.

Q.17 Construct the quadrilateral GOLD

OL=7.5cm, GL=6cm, GD=6cm, LD=5cm, OD=10cm

Q.18 Construct the rectangle OKAY

OK=7cm, KA=5cm

Q.19 Write a Pythagorean triplet whose one member is 14.

Q.20 Find the smallest square number that is divisible by each of the numbers 8,15 and 20.

Q.21 Subtract $3xy + 5yz – 7zx$ from $5xy – 2yz – 2zx + 10xyz$.

Q.22 Simplify:

$(x^2 – 5)(x + 5) + 25$

SECTION-D

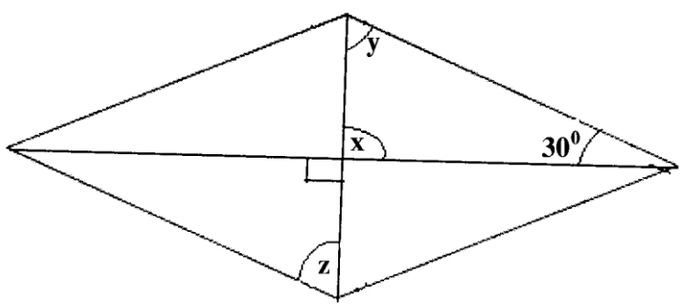
Q.23 Find four rational numbers between $\frac{-2}{5}$ and $\frac{1}{8}$.

Q.24 Simplify and solve the following linear equation.

$15(y – 4) – 2(y – 9) + 5(y + 6) = 0$

Q.25 A man bought a certain number of blankets for the purpose of donation. He donated half of the total blankets to the old age home, one-fifth of the remaining in an orphanage and the left over 100 blankets to the poor people. How many blankets did he buy? What value is depicted by his act?

Q.26 Consider the following parallelogram. Find the values of the unknown x, y, z.



Q.27 Find the least number which must be subtracted from 1989 so as to get a perfect square. Also find the square root of the perfect square so obtained.

Q.28 Find the cube root of 13824 by prime factorization method.

Q.29 Find the following, using suitable identities:

i) $(6x^2 – 5y)^2$ ii) $(2x + 5y)(2x + 3y)$

Q.30 Construct the following quadrilateral TRUE

TR=3.5cm, RU=3cm, UE=4cm, $\angle R = 75^0$, $\angle U = 120^0$