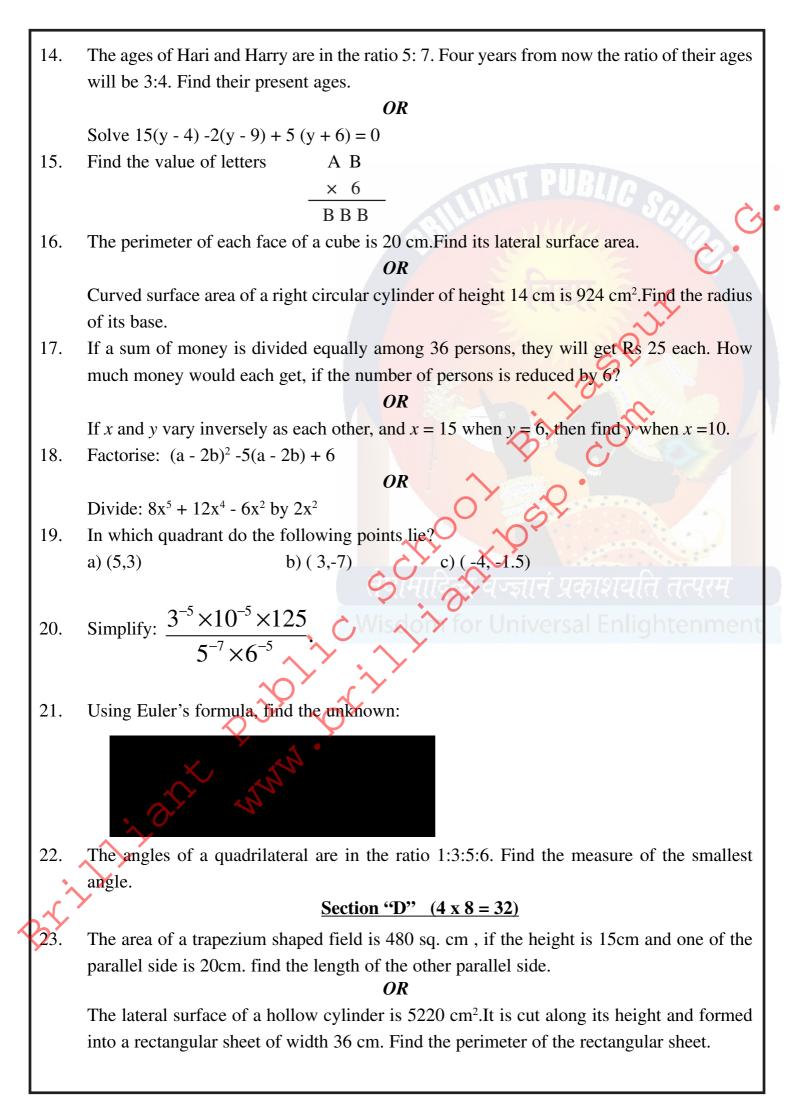# Brilliant Academic Council

FINAL TERM ASSESSMENT 2018-19
Class : VIII
Subject : Mathematics

Time : 3:00 Hrs. M.M. : 80

Date : 02-03-2019 Day : Saturday

General instructions :-
1. All the answer should be written in the provided answer sheet with correct question number.
2. Do not write anything in the Question Paper except your Roll No.
3. This question paper consists of four sections

   Section A – 06 marks

   Section B – 12 marks

   Section C – 30 marks

   Section D – 32 marks

   Total - 80 marks

4. Internal choice is given only in section- C & D
5. Copy down the numerals from question paper correctly.
6. Draw neat & well labelled figure wherever required. Use pencil to draw the figure.

Section "A" (1x6 =6)

1. Subtract $-8x^2$ from $9x^2$
2. Find the value of $(3^0 + 4^{-1}) \times 2^2$.
3. Find the cost of 12 books, if 8 books cost Rs 56.
4. Define convex polygon?
5. Write the abscissa and ordinate of (4, -3)
6. Solve the equation 2x-3=7

Section "B" (2 x 6 = 12)

7. Add $ab – bc, bc – ca, ca - ab$
8. The shape of the top surface of a table is trapezium. Find its area if its parallel sides are 1 m and 1.2 m and perpendicular distance between them is 0.8 m.
9. A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will it fill in five hours?
10. Factorise: $x^2 + xy + 8x + 8y$
11. Find the measure of each exterior angle of a regular polygon of

    i. 9 sides   ii. 15 sides
12. 31z5 is a multiple of 3, where z is a digit, what might be the value of z?

Section "C" (3 x 10 = 30)

13. Construct the quadrilateral ABCD   AB = 4.5cm, BC = 5.5cm, CD = 4cm, AD = 6cm AC = 7cm.

14. The ages of Hari and Harry are in the ratio 5: 7. Four years from now the ratio of their ages will be 3:4. Find their present ages.

OR

Solve $15(y - 4) - 2(y - 9) + 5(y + 6) = 0$

15. Find the value of letters

$$\begin{array}{r} A\ B \\ \times\ \ 6 \\ \hline B\ B\ B \end{array}$$

16. The perimeter of each face of a cube is 20 cm. Find its lateral surface area.

OR

Curved surface area of a right circular cylinder of height 14 cm is 924 cm². Find the radius of its base.

17. If a sum of money is divided equally among 36 persons, they will get Rs 25 each. How much money would each get, if the number of persons is reduced by 6?

OR

If x and y vary inversely as each other, and $x = 15$ when $y = 6$, then find y when $x = 10$.

18. Factorise: $(a - 2b)^2 - 5(a - 2b) + 6$

OR

Divide: $8x^5 + 12x^4 - 6x^2$ by $2x^2$

19. In which quadrant do the following points lie?
    a) (5,3)   b) (3,-7)   c) (-4, -1.5)

20. Simplify: $\dfrac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$.

21. Using Euler's formula, find the unknown:

22. The angles of a quadrilateral are in the ratio 1:3:5:6. Find the measure of the smallest angle.

Section "D"   (4 x 8 = 32)

23. The area of a trapezium shaped field is 480 sq. cm , if the height is 15cm and one of the parallel side is 20cm. find the length of the other parallel side.

OR

The lateral surface of a hollow cylinder is 5220 cm². It is cut along its height and formed into a rectangular sheet of width 36 cm. Find the perimeter of the rectangular sheet.

24. Construct the kite EASY if AY = 8 cm, EY = 4 cm and SY = 6 cm. Which properties of the kite did you use in the process?

OR

Construct a quadrilateral TRUE, TR=3.5cm, RU=3cm, UE=4cm, $\angle R = 75°$ and . Also write the steps of construction.

25. The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45cm and 30cm in length. Find the total cost of polishing the floor, if the cost of per is Rs.4.

26. Factorise the expressions and divide them as directed:

i. $39y^3(50y^2 - 98) \div 26y^2(5y + 7)$.

ii. $(m^2 - 14m - 32) \div (m + 2)$.

OR

Simplify and verify your result for a =1 and b = -1.

$a^2b\ (a^3 - a + 1) - ab\ (a^4 - 2a^2 + 2a) - b\ (a^3 - a^2 - 1)$

27. The size of a plant cell is 0.00001275 m and that of a red blood cell is 0.000007 m. Show that the plant cell is twice the size of a red blood cell.

28. Suppose 3.5 kg wt of rice contains 1.75×10^5 grains. How many grains are there in

i) 4.5 kg wt of rice   ii) 2.2 kg wt of rice?

29. Half of a herd of deer are gazing in the field and three-fourth of the remaining are playing nearby. The rest 9 are drinking water from the pond. Find the number of deer in the herd.

30. Draw the graph for Interest on deposits for a year, using suitable scale on the axes.

i. Does the graph pass through origin?

ii. Use the graph to find the interest on Rs. 2500 for a year.

iii. To get an interest of Rs. 280 per year, how much money should be deposited?