Half Yearly Examination 2019-20
Class-VIII
Sub: Maths.

Time: 2.30 hrs. **M.M: 80**

General Instructions :

1. All questions are compulsory.
2. Question paper is divided into 4 sections A,B,C,D.
3. Section A - consist 8 questions of 1 mark each.
4. Section B- consists 8 questions of 2 marks each.
5. Section C- consist 8 questions of 3 marks each.
6. Section D- consist 8 questions of 4 marks each.

Section-A

1. Which number has no reciprocal?
2. Write two rational numbers greater than –7
3. Solve the equation : $2x-3 = 7$
4. Name a quadrilateral in which all of its sidezs and angles are equal.
5. How many numbers lie between squares of 12 and 13?
6. Guess and write the cube root of 4913.
7. Find 20% of 8620.
8. Find the ratio of 5m to 10 km.

Section-B

9. Multiply $\frac{3}{-7}$ by the reciprocal of $\left(\frac{-63}{49}\right)$
10. Solve the following equation : $5x+9 = 5+3x$
11. Find the number of sides of a regular polygon whose each enterior angle ahs a measure of 45°.
12. What is the minimum requirement needed to determine a unique quadrilateral. Can a rhombus be constructed if its two diagonal lengths are known.
13. Find the square of 42 without actual multiplication.
14. Is 256 a perfect cube on not? Give reasons.
15. Marked price of a frock is Rs. 220. A discount of 20% is announced on sales. What is the selling price of the frock.
16. Convert :
    (i) 1:2 into percent.
    (ii) 0.08 into percent

Section-C

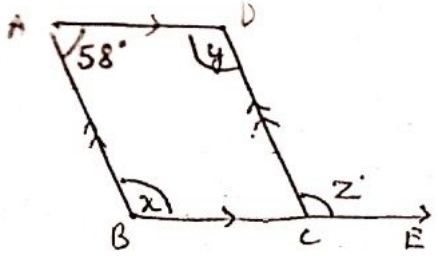
17. Find : $\frac{2}{5} \times \frac{-3}{7} - \frac{1}{14} - \frac{3}{7} \times \frac{3}{5}$

18. Three consecutive integers added up to 51. What are these integers?

OR

The number of boys and girls in a class are in the ratio 7:5. The number of boys is 8 more than the number of girls. What is the total class strength?

19. Give a parallelogram ABCD. Find the values of x,y,z.



20. Construct a quadrilateral PQRS where PQ=4 cm., QR=6 cm., RS=5 cm., PS=5.5 cm. and PR=7 cm.

21. The daily wages (in Rs.) of 30 workers in a factory are given below :

932, 940, 995, 940, 946, 998, 990, 920, 960, 932,
933, 955, 945, 904, 908, 912, 940, 985, 936, 978
940, 968, 990, 906, 940, 990, 996, 988, 932, 968

Using tally marks make a frequency table with intervals as 900-920, 920-940 and so on.

22. Find the least number that must be subtracted from 5607 so as to get a perfect square. Also find the square root of the perfect square.

23. Find the cube root of 3375 by prime factorisation method.

24. A man got a 10% increase in his salary. If his new salary is Rs. 1,54,000. Find his original salary.

Section-D

25. Fill in the blanks :

(i) Reciprocal of –5 is _____

(ii) _____ and _____ are their own reciprocals.

(iii) $\frac{-15}{7} \times 1 = \frac{-15}{7}$ then ____ is identity element of multiplication.

26. Solve the following equation : $\frac{x+1}{2x+3} = \frac{3}{8}$

27. Construct a square of each side 5.2 cm.

OR

Construct a rhombus whose two diagonals are 6 cm. and 5.2 cm.

28. Arjun is twice as old as Shriya. Five years ago his age was three times Shriya's age. Find their present ages.

29. The table given below shows the choice of food for a group of people :

Favourite food	No. of people
North Indian	30
South Indian	40
Chinese	25
Others	25
Total	120

Draw a pie chart for this data :

30. Find square root of : (a) 23.04 (b) 576

31. Find cube root of 74088 by prime factorisation method.

32. Find the difference between compound Interest and simple interest on a loan of Rs. 2000 for 2 years at 10% per annum compounded annually?

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Marking Scheme of Half Yearly Exam 2019-20
Class - VIII
Subject - Maths

Section A

(1) Zero or 0 — 1

(2) For writing each correct no. — $-\frac{1}{2}+\frac{1}{2}$

(3) $2x - 3 = 7$ — $-\frac{1}{2}$

$2x = 7 + 3 = 10$ — $-\frac{1}{2}$

$x = \frac{10}{2} = 5$ — 1

(4) Square — 1

(5) 24 (i.e 2×12) — 1

(6) $\sqrt[3]{4913} = 17$ — $-\frac{1}{2}+\frac{1}{2}$

(7) $\frac{20\text{p}}{1\text{rs}} \times 862\text{p} = 1724$ — $-\frac{1}{2}+\frac{1}{2}$

(8) $5\text{m} : 10\text{km} = 5\text{m} : 10000\text{m} = 1 : 2000$

Section B

(9) $\frac{3}{7} \times \frac{-49}{63} = \frac{1}{3}$ — $1+1=2$

(10) $5x + 9 = 5 + 3x$

$5x - 3x = 9 - 5$ — 1

$2x = 4$ — $\frac{1}{2}$

$x = 2$ — $\frac{1}{2}$

(11) Let no. of sides be n

$45^\circ \times n = 360^\circ$ — 1

$n = \frac{360^\circ}{45^\circ} = \frac{40^\circ}{5} = 8$ — 1

(12) Minimum 5 parts are needed to determine a unique quadrilateral — 1

Yes rhombus can be constructed — 1

(13) $42^2 = (40+2)^2$ — $\frac{1}{2}$

$= (40+2)(40+2) = 40(40+2) + 2(40+2)$ — $\frac{1}{2}$

$= 1600 + 80 + 80 + 4 = 1764$ — 1

(14) $256 = 2^3 \times 2^3 \times 2^2$ (It is not perfect cube) — 1

For giving correct reason — 1

(15) discount = 20% of 220 = Rs 44 — 1

(15) S.P = M.P − discount = 220 − 44 = Rs 176 — (1)

(16) $\frac{1}{2} \times 100\% = 50\%$ — (1)

$0.08 \times 100\% = 8\%$ — (1)

Section C

(17) $\left(\frac{2}{5} \times \frac{-3}{7}\right) - \frac{1}{14} - \frac{3}{7} \times \frac{3}{5}$

$= \frac{-3}{7}\left(\frac{2}{5} + \frac{3}{5}\right) - \frac{1}{14}$ — (1)

$= \frac{-3}{7}\left(\frac{5}{5}\right) - \frac{1}{14} = \frac{-3}{7} - \frac{1}{14} = \frac{-6-1}{14} = \frac{-7}{14} = -\frac{1}{2}$

$\frac{1}{2}$ mark, $\frac{1}{2}$ mark, 1 mark

(18) Let consecutive integers be $x, x+1, x+2$ — (1)

$x + x + 1 + x + 2 = 51$

$3x + 3 = 51$

$3x = 48$

$x = 16$ — (2)

∴ the integers are 16, 17, 18 — (1)

Or

Let no. of boys and girls in class be $7x$ and $5x$ — (½)

$7x - 5x = 8$ — (½)

$2x = 8$ — (½)

$x = 4$ — (½)

No. of boys $= 7 \times 4 = 28$

No. of girls $= 5 \times 4 = 20$

Total strength $= 48$ — 1

(19) $x + 58^\circ = 180^\circ$ (co-int. ∠s)

$x = 180^\circ - 58^\circ = 122^\circ$ — (1)

$\Rightarrow x = y = 122^\circ$ (opp ∠s of ||gm) — (1)

$\Rightarrow y = z = 122^\circ$ (alt int. ∠s) — (1)

(20) For constructing correct figure — (3)

(21) For drawing using correct tally marks — 1½ mark

For writing correct frequency — 1½ mark

(22)
$$\begin{array}{r|l} & 74 \\ \hline 7 & 5607 \\ & 49 \\ \hline 144 & 707 \\ & 576 \\ \hline & 131 \end{array}$$

— (2)

Least no. is 131 — (½)

$5607 - 131 = 5476$

$\sqrt{5476} = 74$ — (½)

(23) 3375 → Its factorisation — 1½

: → grouping — ½

→ finding cube root — 1

(24) Let original Salary be Rs x — ½

$x + 10\%$ of $x = 1,54,000$ — 1

$x + \frac{14}{10}x = \frac{11}{10}x = 1,54,000$

$x = \frac{154000 \times 10}{11}$ — 1

$= 1,40,000$

Original Salary = Rs 1,40,000 — ½

Section D

(25) (i) $-1/5$ — 1

(ii) $-1, 1$ — 2

(iii) 1 — 1

(26) $8(x+1) = 3(2x+3)$ — 1

$8x + 8 = 6x + 9$ — 1

$8x - 6x = 9 - 8$ — 1

$2x = 1$

$x = \frac{1}{2}$ — 1

27) For correct construction — (4)

28) Let Shriya's age = x yrs — ½
Arjun's age = $2x$ yrs — ½
5 years ago
$2x - 5 = 3(x - 5)$ — (1)
$2x - 5 = 3x - 15$
$2x - 3x = -15 + 5$
$+x = +10$
$x = 10$ — (1)

Present age of Shriya = 10 yrs and Arjun's age = 20 yrs — (1)

29) For Calculation of sector angle — $\frac{1}{2} \times \frac{1}{2} = 2$

For drawing correct pie chart — (2)

(30) $\sqrt{23.04} = 4.8$ — (2)

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      4.8
    ------
4 | 23.04
    16
    ----
88 | 704
     704
     ---
       0
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(ii) $\sqrt{576} = 24$ — (2)

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      24
    ------
2 | 5,76
    4
    ----
44 | 176
     176
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(31) 74088 (finding prime factorisation) — (2)
grouping of factors + cube root of no. — (1) + (1)

(32) For finding Compound Interest — 1½ mark
for finding Simple Interest — 1½ mark
for finding difference — 1 mark

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