Class VIII HHW

/11 Short Answer Type Questions:

26/9/17

## RATIONAL NUMBERS

1) Find using distributivity:

i) $\left\{\frac{7}{5}\times\left(-\frac{3}{12}\right)\right\}+\left\{\frac{7}{5}\times\frac{5}{12}\right\}$ ii) $\left\{\frac{9}{16}\times\frac{4}{12}\right\}+\left\{\frac{9}{16}\times\frac{-3}{9}\right\}$ Ans: i) $\frac{7}{30}$ ii) 0

2) Multiply $\frac{6}{13}$ by the reciprocal of $\frac{-7}{16}$. Ans: $-\frac{96}{91}$

3) can you say what is the reciprocal of '0' (zero)?

4) Find $-\frac{1}{2}+\left[\frac{3}{7}+\left(-\frac{4}{3}\right)\right]=\left[-\frac{1}{2}+\frac{3}{7}\right]+\left(-\frac{4}{3}\right)$. Are the two sums equal?

5) Is $-\frac{2}{3}-\left[-\frac{4}{5}-\frac{1}{2}\right]=\left[-\frac{2}{3}-\left(-\frac{4}{5}\right)\right]-\frac{1}{2}$? Check

6) Is $\frac{2}{3}\times\left(-\frac{6}{7}\times\frac{4}{5}\right)=\left(\frac{2}{3}\times\frac{-6}{7}\right)\times\frac{4}{5}$?

7) a) Simplify: $\frac{16}{39}+\frac{9}{-26}$; b) Find the multiplicative inverse of $-\frac{2}{3}\times\frac{-5}{6}$. Ans: $\frac{5}{78}$; $\frac{18}{10}$

8) verify: a) $(-5)\times\left(\frac{-3}{7}\right)=\frac{-3}{-7}\times(-5)$ b) $(-9)\times\left(\frac{17}{19}\right)=\frac{17}{19}\times(-9)$

9) Verify the following: $-\frac{5}{8}+\frac{3}{5}=\frac{3}{5}+\left(\frac{-5}{8}\right)$

10) Subtract $-\frac{3}{8}$ from $-\frac{5}{7}$ Ans: $-\frac{19}{56}$

27/9/17 11) What should be subtract from $-\frac{3}{4}$, so as to get $\frac{5}{6}$? Ans: $-\frac{19}{12}$

12) Represent the number $\frac{7}{4}$ on the number line.

13) Represent the following on number line.

(a) $\frac{11}{3}$ (b) $-\frac{11}{3}$

14) Find two rational numbers between i) $-2$ and $0$ Ans: $-\frac{1}{3}, \frac{1}{3}$

ii) $-\frac{2}{3}$ and $\frac{1}{2}$. Ans: $-\frac{9}{5}$ to $-\frac{1}{5}$ any two

15) Insert 5 rational numbers between $\frac{1}{5}$ and $\frac{2}{5}$.

16) The difference of two numbers is $\frac{5}{9}$. If one of the numbers is $\frac{1}{3}$, find the other number. Ans: $\frac{8}{9}$

## CHAPTER-2

28/9/17

## Linear Equations in One Variable.

17) Sum of two numbers is 95. If one exceeds the other by 15, find the number. Ans: 55

18) Solve the equation: $\frac{x}{2} - \frac{1}{5} = \frac{x}{3} + \frac{1}{4}$

19) Solve the following equations and check your solutions. Ans: a) $x=3$, b) $x=\frac{5}{2}$
a) $19-2x-3 = 6x+7-5x$ b) $10+3x-7 = 7x+8-6x$

20) Solve the following equations and check your solutions:
a) $5t-3 = 3t-5$ b) $8x+4 = 3(x-1)+7$ c) $x = \frac{4}{5}(x+10)$
Ans: a) $t=-1$
b) $x=0$
c) $x=40$

21) Solve the following equations and check your solutions:
a) $\frac{2y+5}{y+7} = 1$ b) $\frac{5z-3}{2z} = \frac{8}{9}$ c) $\frac{1-9y}{19-3y} = \frac{5}{8}$ Ans: a) $y=2$
b) $z=\frac{27}{29}$
c) $y=-\frac{29}{19}$

22) Solve the following equations:
a) $\frac{3y+5}{3-2y} = \frac{5}{3}$ b) $\frac{y-(7-8y)}{9y-(3+4y)} = \frac{2}{3}$ c) $\frac{0.4z-3}{1.5z+9} = -\frac{7}{5}$
Ans: a) $y=0$,
b) $y=\frac{15}{17}$
c) $-3.84$

23) Fifteen years from now Ravi's age will be four times his present age. What is Ravi's present age. Ans: 5 years

24) Two numbers are in the ratio 5:3. If they differ by 18. what are the numbers? Ans: 45, 27

25) Three consecutive integers add upto 51. What are these integers? Ans: 16, 17, 18

26) The ages of Hari and Siva are in the ratio 5:7. Four years from now the ratio of their ages will be 3:4.

27) If you subtract $\frac{1}{2}$ from a number and multiply the result by $\frac{1}{2}$ you get $\frac{1}{8}$. What is the number. Ans: $\frac{3}{4}$

28) Solve the following equations and check your solutions.

a) $\frac{x}{2}+\frac{x}{3}+\frac{x}{4}=1$ b) $\frac{3x}{7}-\frac{2x}{5}=\frac{4}{35}$ c) $\frac{n}{2}-\frac{3n}{4}+\frac{5n}{6}=21$.

Ans. a) $x=\frac{12}{13}$, b) $n=4$, c) $n=36$

29) Solve for $x$: $\frac{(2x+1)-(3x+1)}{(3x-2)-(4x+1)}=\frac{1}{2}$ Ans: $x=3$

30) Solve: $\frac{(2x+3)-(5x-7)}{6x+11}=-\frac{8}{3}$ Ans: $x=-\frac{118}{39}$

## CHAPTER-3

29/9/17

## Understanding Quadrilaterals

31) How many diagonals does each of the following have?

a) A convex quadrilateral

b) A regular hexagon.

Ans: No. of diagonals $=\frac{n(n-1)}{2}-n$

b) $n=6$

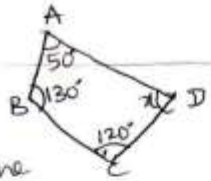
Ans: 9

a) $=\frac{4(4-1)}{2}-4$

$=6-4$

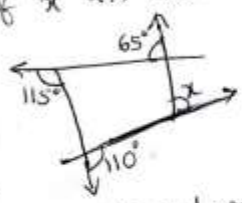
$=2$

32) Find the measure of angle 'x' in the following figure:




Ans: $x=60°$

33) Find the measure of 'x' in the figure:




Ans: $x=70°$

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

Ans: $\frac{360°}{15}=24°$

35) How many sides does a regular polygon have if the measure of an exterior angle is 24°?

Ans: $\frac{360°}{24°}=15$ no.

36) How many sides does a regular polygon have if each of its interior angles is 165°?

Ans: Each exterior angle $=180°-165°=15°$

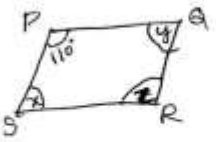
$\therefore \frac{360}{15°}=24$

37) Is it possible to have a regular polygon

(38) What is the minimum interior angle possible for a regular polygon? Why?

Ans: Each interior angle of an equilateral $\Delta = 60°$
Ans: 60°

(39) In the figure, PQRS is a parallelogram. Find the values of x, y and z.




Ans: $x = 70°$, $y = 70°$, $z = 110°$

(40) The measures of two adjacent angles of a parallelogram are in the ratio 3:2. Find the measure of each of the angles of the parallelogram.

Ans 108°, 72°, 108°, 72°

## CHAPTER-4

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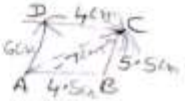
## Practical Geometry

(41) Construct a quadrilateral ABCD, where AB = 4.5 cm, BC = 5.5 cm, CD = 4 cm, AD = 6 cm and AC = 7 cm.




(42) Construct a rhombus BEST, where BE = 4.5 cm, ET = 6 cm.

(43) Construct a quadrilateral LIFT, where LI = 4 cm, IF = 3 cm, TL = 2.5 cm, LF = 4.5 cm, IT = 4 cm.

(44) Construct a rhombus BEND, where BN = 5.6 cm, DE = 6.5 cm.

(45) Construct a parallelogram MORE, when OR = 6 cm, RE = 4.5 cm, EO = 7.5 cm.

## CHAPTER-5

## DATA HANDLING

(46) Given below are the height (in cm) of 11 boys of a class: 146, 143, 148, 132, 128, 139, 140, 152, 154, 142, 149.

Arrange the above data in ascending order and find:

i) the height of the tallest boy.
ii) the height of the shortest boy.
iii) the range of the given data.

Ans: i) 154 cm
ii) 128 cm
iii) 154 − 128 = 26 cm.

(47) The weekly wages (in ₹) of 30 workers in a factory are:
830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 835, 836, 878, 840, 868, 890, 806, 840.
Using tally marks make a frequency table with intervals as 800-810, 810-820 and so on.
Ans. Total $\Sigma f = 30$

(48) Draw a pie chart of the data given below:
The time spent by a child during a day.
Sleep - 8 hours, School - 6 hours, Homework - 4 hours, play - 4 hours, others - 2 hours.
Ans: 120°, 90°, 60°, 60°, 30°

(49) When a die is thrown, list the outcomes of an event of getting
i) a) a prime number
b) not a prime number
ii) a) a number greater than 5
b) a number not greater than 5.
Ans. i) a) 2, 3, 5
b) 1, 4, 6
ii) a) 6
b) 1, 2, 3, 4, 5.

(50) Find the probability of the events given in the above (Q49) question.
Ans i) a) $= \frac{3}{6} = \frac{1}{2}$
b) $\frac{3}{6} = \frac{1}{2}$
ii) a) Ans: $\frac{1}{6}$
b) $\frac{5}{6}$

## CHAPTER-6

1/6/17

## Squares and Square Roots

(51) Write a Pythagorean triplet whose one number is 15.
Ans: $2n = 15$
$n = \frac{15}{2}$ is not an integer
Let $n^2 - 1 = 15$
$n^2 = 16, n = 4$
$2(4), 4^2 - 1, 4^2 + 1$
8, 15, 17

(52) Using prime factors, find the square root of 324.
Ans: $2 \times 3 \times 3 = 18$

(53) Is 1458 a perfect square? If not, find the smallest multiple of 1458 which is a perfect square. Find the square root of the new number.
Ans: 2

54) Find the length of the side of a square whose area is 441 $m^2$. Ans: 21

55) Find the square root of each of the following numbers by Division method:
i) 2304 ii) 529 iii) 3249 iv) 576 v) 7921.
vi) 5776
Ans: 48, 23, 57, 24, 89, 76.

56) Find the square root of the following decimal numbers.
i) 7.29 ii) 42.25 iii) 31.36
Ans: 2.7, ii) 6.5, iii) 5.6.

57) Find the least number of four digits which is a perfect square.

Ans: 3 | 1000 (31; 9; 61 | 100; 61; 29)
3 | 1000 (32; 9; 62 | 100; 124)
124 − 100 = 24
If we add 24 to 1000, i.e. 1024 is the least no. of 4 digits perfect sq.

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## CHAPTER-7
## Cubes and Cube Roots

58) Find the smallest number by which each of the following numbers must be multiplied to obtain a perfect cube.
i) 243 ii) 256 iii) 675 iv) 100.
Ans: 3, ii) 2, iii) 5 iv) 2×5

59) Find the smallest number by which each of the following numbers must be divided to obtain a perfect cube:
i) 81 ii) 128 iii) 192 iv) 704
Ans: 3, 2, iii) 3 iv) 11

3/10/17
A) Activity on comparing quantities.

B) 4/10/17 & 5/10/17: Multiplication tables from 6 to 16.

C) 4/10/17: Learn Algebric Identities & Formulae of comparing quantities.

5/10/17

## 8. comparing Quantities

60) Find the ratio of 5m to 10km. Ans: $\frac{1}{2000}$ or 1:2000

61) 72% of 25 students are good in mathematics. How many are not good in mathematics? Ans: 7 → not good in maths.

62) The cost of pair of shoes is ₹900. The sales tax charged was 5%, find the bill amount. Ans: 945

63) Find C.I. on a sum of ₹ 8,000 for 2 years at 5% p.a. compounded annually. Ans: ₹820.

64) The cost of a T.V. set at a showroom is ₹36,500. The sales tax charged was 8%. Find the bill amount. Ans: 39420.

65) Calculate the amount and compound interest on ₹ 10,800 for 3 years at $12\frac{1}{2}$% p.a. compounded annually. Ans: ₹4577.34

66) A colour T.V. is available for ₹26880 inclusive of VAT. If the original cost of the T.V. is ₹24,000, find the rate of VAT. Ans: 12%.

Note: For Revision, please refer NCERT text book also.

+ All the best +