

Tender Heart High School, Sector-33 B chd.

Class: VIII

Teacher: Deepu.

Subject: Mathematics

Topic: Revision of Chapter-1 and Chapter-2

As your unit test is approaching i.e. on 7.05.24, so try all the questions given in this assignment and then check your answer.

Quest. 1: Write 12 rational number between $\frac{1}{4}$ and $\frac{2}{3}$.

Quest. 2: Simplify the following:

(i) $\frac{4}{7} + \frac{2}{-3} + \frac{5}{21} + \frac{-8}{9}$

(ii) $\frac{-12}{7} \div \frac{-16}{35}$

(iii) $2\frac{1}{6} \times \frac{18}{26} \times 3\frac{1}{15}$

(iv) Subtract $-\frac{7}{8}$ from $\frac{4}{9}$.

Quest 3 Represent $2\frac{1}{6}$ and $\frac{8}{15}$ on one number line

Quest 4 Verify: $-\frac{2}{3} \times \left(\frac{1}{15} - \frac{6}{35}\right) = \left(-\frac{2}{3} \times \frac{1}{15}\right) + \left(-\frac{2}{3} \times \frac{-6}{35}\right)$

Quest 5 The product of two numbers is $-\frac{7}{11}$ and one of the number is -6 . find the other number.

Quest 6 Simplify:

(i) $(64)^{\frac{1}{3}}$

(ii) $(32a^{10}b^{-5})^{\frac{1}{5}}$

(iii) $\sqrt[3]{x^{21}y^{-18}z^{-3}}$

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Quest-7 Simplify : (i) $(16)^{-1/4} \times 3^{-5} \times 3^9 \times (8)^{2/3} \times \sqrt[4]{3}^{12}$

(ii) $\frac{(a^2)^{n+6} \times a^{n-3}}{(a^2)^{-3}}$

Quest-8 Find the value of $[2 - 3(2-3)^{-1}]^{-1}$

Quest-9 Solve: $\frac{(2^{-3})^2 \times (3^2)^{-3} \times (5^{-4})^2}{(2^{-2})^5 \times (3^3)^{-2} \times (5^{-3})^4}$

Quest-10 The value of $(64)^{-1/2} - (-32)^{-4/5}$ is

Answers

Ans 1 $\frac{1}{4}$ and $\frac{2}{3}$ d.c.m = 12

$\frac{1 \times 3}{4 \times 3} = \frac{3}{12}$ or $\frac{30}{120}$

$\frac{2 \times 4}{3 \times 4} = \frac{8}{12}$ or $\frac{80}{120}$

rational numbers : $\frac{31}{120}, \frac{32}{120}, \frac{33}{120}, \frac{34}{120}, \frac{35}{120}, \frac{36}{120}, \frac{37}{120}, \frac{38}{120}, \frac{39}{120}$
 $\frac{40}{120}, \frac{41}{120}, \frac{42}{120}$

Ans 2 (i) $\frac{4}{7} - \frac{2}{3} + \frac{5}{21} - \frac{8}{9}$ d.c.m = 63

$= \frac{36 - 42 + 15 - 56}{63} = \frac{36 + 15 - 42 - 56}{63}$

$= \frac{51 - 98}{63} = \frac{-47}{63}$

$\begin{array}{r|l} 3 & 7, 3, 21, 9 \\ 3 & 7, 1, 1, 3 \\ 7 & 7, 1, 7, 1 \\ & 1, 1, 1, 1 \end{array}$

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$$(ii) \frac{12^3}{7 \times 164} \times \frac{35}{5} = \frac{15}{4} = 3\frac{3}{4}$$

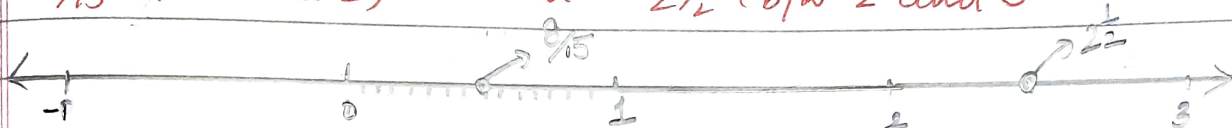
$$(iii) 2\frac{1}{6} \times \frac{18}{26} \times 3\frac{1}{15} = \frac{13}{6} \times \frac{18}{26} \times \frac{46}{155} = \frac{23}{5} = 4\frac{3}{5}$$

$$(iv) \frac{4}{9} - \left(-\frac{7}{8}\right) = \frac{4}{9} + \frac{7}{8} = \frac{32+63}{72} = \frac{95}{72} = 1\frac{23}{72}$$

Ans 3 (i) $2\frac{1}{2}$ and $8/15$

$8/15$ (b/w 0 and 1)

and $2\frac{1}{2}$ (b/w 2 and 3)



$\begin{aligned} \text{Ans 4 L.H.S} &= -\frac{2}{3} \times \left(\frac{1}{15} - \frac{6}{35}\right) \\ &= -\frac{2}{3} \times \left(\frac{7-18}{105}\right) \\ &= -\frac{2}{3} \times \frac{-11}{105} = \frac{22}{315} \end{aligned}$	$\begin{aligned} \text{R.H.S} &= \left(-\frac{2}{3} \times \frac{1}{15}\right) + \left(-\frac{2}{3} \times -\frac{6}{35}\right) \\ &= \frac{-2}{45} + \frac{4}{35} \\ &= \frac{-14+36}{315} = \frac{22}{315} \end{aligned}$
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L.H.S = R.H.S

Hence verified

Ans 5 let the other number be x .

$$-6 \times x = -7$$

$$x = \frac{7}{11 \times 6} = \frac{7}{66} \text{ Ans.}$$

Ans 6 (i) $(64)^{1/3} = (4^3)^{1/3}$
 $= 4^{3 \times \frac{1}{3}} = 4$

(ii) $(32a^{10}b^{-5})^{1/5}$
 $= 2^{5 \times \frac{1}{5}} a^{10 \times \frac{1}{5}} b^{-5 \times \frac{1}{5}}$
 $= 2a^2b^{-1} \text{ or } 2a^2/b$

(iii) $(x^7y^{-18}z^{-3})^{1/3}$
 $= x^{7 \times \frac{1}{3}} y^{-18 \times \frac{1}{3}} z^{-3 \times \frac{1}{3}} = x^7y^{-6}z \text{ or } \frac{x^7z}{y^6}$

Ans 7 (i) $2^{4 \times \frac{1}{4}} \times 3^{-5} \times 3^9 \times 2^{8 \times \frac{2}{3}} \times 3^{\frac{3}{12} \times 4}$
 $= 2^{-1} \times 2^2 \times 3^{-5} \times 3^9 \times 3^3$
 $= 2^{-1+2} \times 3^{-5+9+3} = 2^1 \times 3^7 = 2 \times 3^7$

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$$\begin{aligned} \text{(ii)} \quad \frac{a^{2 \times (n+6)}}{a^{2 \times -3}} \times a^{n-3} &= \frac{a^{2n+12} \times a^{n-3}}{a^{-6}} \\ &= a^{2n+12+n-3+6} \\ &= a^{3n+15} \end{aligned}$$

$$\begin{aligned} \text{Ans 8} \quad [2 - 3(2-3)^{-1}]^{-1} &= [2 - 3(1)^{-1}]^{-1} \\ &= [2 - 3 \times \frac{1}{1}]^{-1} \\ &= [2 - 3]^{-1} = [1]^{-1} = \frac{1}{1} \\ &= 1 \end{aligned}$$

$$\begin{aligned} \text{Ans 9} \quad \frac{2^{-3 \times 2}}{2^{-2 \times 5}} \times \frac{3^{2 \times -3}}{3^{3 \times -2}} \times \frac{5^{-4 \times 2}}{5^{-3 \times 4}} &= \frac{2^{-6} \times 3^{-6} \times 5^{-8}}{2^{-10} \times 3^{-6} \times 5^{-12}} \\ &= 2^{-6+10} \times 3^{-6+6} \times 5^{-8+12} \\ &= 2^4 \times 3^0 \times 5^4 \\ &= 16 \times 1 \times 625 \\ &= 10000 \end{aligned}$$

$$\begin{aligned} \text{Ans 10} \quad (64)^{-1/2} - (-32)^{-4/5} &= (8)^{2 \times -1/2} - (-2)^{5 \times -4/5} \\ &= 8^{-1} - (-2)^{-4} \\ &= \frac{1}{8} - \frac{1}{2^4} \\ &= \frac{1}{8} - \frac{1}{16} \\ &= \frac{2-1}{16} = \frac{1}{16} \end{aligned}$$

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