Tender Heart High School, Sector 33B, Chd.

Class 9, Mathematics

Date: 29.04.2024

Ms. Reena

Revision Assignment

Ques 1 Express each of the following as a vulgar fraction in simplest form:-

(i) $0.\overline{6}$ (ii) $2.\overline{8}$ (iii) $0.\overline{24}$ (iv) $5.\overline{36}$

Ques 2 Find four rational numbers between

(i) $\frac{1}{4}$ and $\frac{1}{3}$ (ii) $-\frac{2}{3}$ and $\frac{1}{4}$

Ques 3 Rationalise the denominator of each of the following:-

(i) $\frac{4}{\sqrt{5}}$ (ii) $\frac{4}{2+\sqrt{3}}$ (iii) $\frac{7}{2\sqrt{3}+\sqrt{5}}$

Ques 4 If a and b are rational numbers and $\frac{2+\sqrt{3}}{2-\sqrt{3}} = a+b\sqrt{3}$, find the values of 'a' and 'b'.

Ques 5 If $a^2 + \frac{1}{a^2} = 14$, find the values of :-

(i) $\left(a+\frac{1}{a}\right)$ (ii) $\left(a-\frac{1}{a}\right)$ (iii) $\left(a^2-\frac{1}{a^2}\right)$

Ques 6 Evaluate using formulae.

(i) $(107)^2$ (ii) $(20.6)^2$ (iii) $(996)^2$

Ques 7 Expand the following:-

(i) $(3a+2b)^3$ (ii) $(5x-3y)^3$

Class 9, Mathematics
Solution of Assignment (Revision)

Ms. Reena

Answers :-

1) (i) $0.\bar{6} = \frac{2}{3}$ (ii) $2.\bar{8} = \frac{26}{9}$

(iii) $0.2\overline{4} = \frac{8}{33}$ (iv) $5.\overline{36} = \frac{59}{11}$

2) (i) $\frac{1}{4} < \frac{25}{96} < \frac{13}{48} < \frac{7}{24} < \frac{5}{16} < \frac{1}{3}$

(ii) L.C.M. of 3 and 4 is 12

$\frac{-2}{3} = \frac{-2}{3} \times \frac{4}{4} = \frac{-8}{12}$ and $\frac{1}{4} = \frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$

Now, $\frac{-8}{12} < \frac{-7}{12} < \frac{-6}{12} < \frac{-5}{12} ---- < \frac{3}{12}$

Note :- In question 2 both parts answer may be different as there are infinitely many rational numbers between two rational numbers.

3) (i) $\frac{4}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = \frac{4\sqrt{5}}{5}$

(ii) $\frac{4}{2+\sqrt{3}} \times \frac{2-\sqrt{3}}{2-\sqrt{3}} = \frac{4(2-\sqrt{3})}{(2)^2-(\sqrt{3})^2} = \frac{4(2-\sqrt{3})}{4-3}$

$= 4(2-\sqrt{3})$

(iii) $\frac{7}{2\sqrt{3}+\sqrt{5}} \times \frac{2\sqrt{3}-\sqrt{5}}{2\sqrt{3}-\sqrt{5}} = \frac{7(2\sqrt{3}-\sqrt{5})}{(2\sqrt{3})^2-(\sqrt{5})^2}$

$= \frac{7(2\sqrt{3}-\sqrt{5})}{12-5} = \frac{7(2\sqrt{3}-\sqrt{5})}{7} = 2\sqrt{3}-\sqrt{5}$

4) $a = 7$ and $b = 4$

5) (i) ± 4 (ii) $\pm 2\sqrt{3}$ (iii) $\pm 8\sqrt{3}$

6) (i) $(107)^2 = (100+7)^2 = (100)^2 + 7^2 + 2 \times 100 \times 7$

$= 10000 + 49 + 1400$

$= 11449$