EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Rational and Irrational Numbers

Grade : ICSE Grade IX

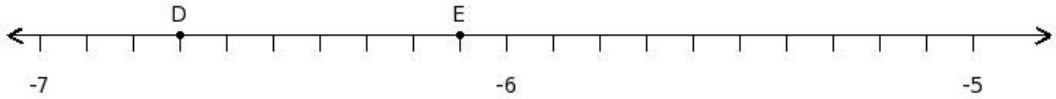
1. Convert the non-terminating recurring decimal $11.\overline{952380}$ to rational number

   (i) $\frac{251}{21}$ (ii) $\frac{83}{7}$ (iii) $\frac{251}{19}$ (iv) $\frac{253}{21}$ (v) $\frac{251}{23}$

2. The order of the surd $\frac{6}{7}\sqrt[20]{44}$ is

   (i) $\sqrt[20]{44}$ (ii) $\frac{1}{20}$ (iii) 44 (iv) 20 (v) $\frac{6}{7}$

3. Find the product of the rational numbers at the points labelled with letters D and E



   (i) $\frac{4087}{100}$ (ii) $\frac{817}{20}$ (iii) $\frac{4007}{98}$ (iv) $\frac{4089}{100}$ (v) $\frac{1389}{34}$

4. Which of the following is a pure recurring decimal?

   (i) 20.61111111111111... (ii) 1.72222222222222... (iii) 29.27777777777777... (iv) 0.43333333333333...

   (v) 5.77777777777777...

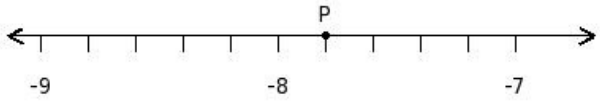
5. Which of the following decimal numbers lie between 9639.3 and 9639.4?

   (i) 9639.35 (ii) 9639.45 (iii) 9639.21 (iv) 963.93 (v) 96393.5

6. The recurring part of the decimal $4.9\overline{4}$ is

   (i) 44 (ii) 494 (iii) 4 (iv) 4.94 (v) 444

7. Find the rational number at the point labelled with letter P



   (i) -13 (ii) $(\frac{-41}{5})$ (iii) $(\frac{-39}{5})$ (iv) $(\frac{-39}{7})$ (v) $(\frac{-37}{5})$

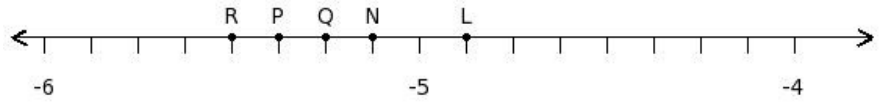
8. The additive inverse of $\frac{7}{8}$ is

   (i) $\frac{8}{7}$ (ii) $(\frac{-7}{8})$ (iii) 0 (iv) $(-1\frac{7}{8})$ (v) $\frac{8}{-7}$

9. The decimal number 6.19 lies between

   (i) {6.09,6.29} (ii) {6.17,6.18} (iii) {6.29,6.39} (iv) {5.99,6.09} (v) {6.20,6.21}

10. Find the position of the rational number $(\frac{-41}{8})$ on the number line



(i) N (ii) R (iii) P (iv) L (v) Q

11. Rationalise the denominator of $\frac{1}{8\sqrt{6}}$

(i) $\frac{1}{48}\sqrt{4}$ (ii) $\frac{1}{48}\sqrt[4]{6}$ (iii) $\frac{1}{48}\sqrt{6}$ (iv) $\frac{1}{48}\sqrt{9}$ (v) $\frac{1}{8}$

12. Convert the fraction $\frac{529}{21}$ to non-terminating recurring decimal

(i) $25.\overline{190476}$ (ii) $251.\overline{904761}$ (iii) 2519.047619047618 (iv) $2.5\overline{190476}$ (v) $0.25\overline{190476}$

13. Express $\frac{4}{7}$ as a decimal correct to 1 decimal places

(i) 0.5 (ii) 0.4 (iii) 0.7 (iv) 0.8 (v) 0.6

14. $\sqrt[4]{13^{7}}$ =

(i) $(\frac{7}{4})_{16}$ (ii) $(\frac{7}{4})_{13}$ (iii) $(\frac{7}{4})_{11}$ (iv) $(\frac{4}{7})_{13}$ (v) $(\frac{7}{2})_{13}$

15. The decimal number 1.0072 lies between

(i) {1.0062,1.0082} (ii) {1.0052,1.0062} (iii) {1.0070,1.0071} (iv) {1.0082,1.0092}

(v) {1.0073,1.0074}

16. The decimal number 848.684 lies between

(i) {848,849} (ii) {846,847} (iii) {850,851} (iv) {847,848} (v) {849,850}

17. 1.40 =

(i) $\frac{7}{50}$ (ii) 14 (iii) $\frac{7}{500}$ (iv) $\frac{7}{5}$ (v) 140

18. $(-6\sqrt{3})+7\sqrt{3}$ =

(i) 3 (ii) $\sqrt{3}$ (iii) $\sqrt{5}$ (iv) $\sqrt{\frac{1}{3}}$ (v) $\sqrt[4]{3}$

19. $\sqrt[2]{\sqrt[3]{10}}$ =

(i) $\sqrt[6]{8}$ (ii) $\sqrt[6]{10^{5}}$ (iii) $\sqrt[6]{12}$ (iv) $\sqrt[6]{10}$

20. The decimal number 6.081 lies between

(i) {6.091,6.101} (ii) {6.082,6.083} (iii) {6.061,6.071} (iv) {6.079,6.080} (v) {6.071,6.091}

21. Rationalise the denominator of $\frac{(-\sqrt{9}+\sqrt{7})}{(\sqrt{4}-\sqrt{8})}$ =

(i) $(\frac{1}{2}-\frac{1}{2}\sqrt{7}+\frac{3}{2}\sqrt{2}-\frac{1}{2}\sqrt{14})$ (ii) $(\frac{3}{2}-\frac{1}{2}\sqrt{7}+\frac{3}{2}\sqrt{2}-\frac{1}{2}\sqrt{14})$ (iii) $(\frac{3}{2}-\frac{1}{2}\sqrt{7}+\frac{3}{2}\sqrt[4]{2}-\frac{1}{2}\sqrt{14})$

(iv) $(\frac{3}{2}-\frac{1}{2}\sqrt{7}+\frac{3}{2}\sqrt{2}-\frac{1}{2}\sqrt{17})$ (v) $(\frac{3}{2}-\frac{1}{2}\sqrt[4]{7}+\frac{3}{2}\sqrt{2}-\frac{1}{2}\sqrt{14})$

22. $\sqrt[10]{8} \times \sqrt[10]{3}$ =

(i) $\sqrt[12]{24}$ (ii) $\sqrt[8]{24}$ (iii) $\sqrt[10]{26}$ (iv) $\sqrt[10]{21}$ (v) $\sqrt[10]{24}$

23. Which of the following is a decimal fraction?

(i) $\frac{17}{12}$ (ii) $\frac{12}{15}$ (iii) $3\frac{11}{16}$ (iv) $\frac{8}{10}$ (v) $17\frac{1}{2}$

24. Which of the following is a mixed recurring decimal?

(i) 30.38888888888888... (ii) 0.33333333333333... (iii) 30.25925925925925... (iv) 25.88888888888888...

(v) 23.11111111111111...

25. $\frac{\sqrt[3]{8}}{\sqrt[3]{9}}$ =

(i) $\sqrt[5]{\frac{8}{9}}$ (ii) $\sqrt[3]{\frac{2}{3}}$ (iii) $\sqrt[3]{\frac{10}{9}}$ (iv) $\sqrt[3]{\frac{8}{9}}$ (v) $\frac{8}{9}$

Assignment Key

1) (i)	2) (iv)	3) (i)	4) (v)	5) (i)	6) (iii)
7) (iii)	8) (ii)	9) (i)	10) (i)	11) (iii)	12) (i)
13) (v)	14) (ii)	15) (i)	16) (i)	17) (iv)	18) (ii)
19) (iv)	20) (v)	21) (ii)	22) (v)	23) (iv)	24) (i)
25) (iv)					