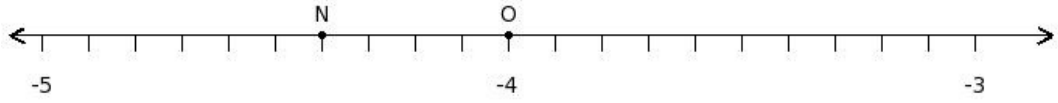
EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Real Numbers

Grade : ICSE Grade VIII

1. Find the product of the rational numbers at the points labelled with letters N and O



(i) $\frac{88}{5}$ (ii) $\frac{122}{7}$ (iii) $\frac{86}{5}$ (iv) 18

2. Which of the following are true?

a) $\frac{16}{15} \div (\frac{61}{17} \div \frac{5}{6}) = (\frac{16}{15} \div \frac{61}{17}) \div \frac{5}{6}$

b) $\frac{1}{6} \times (\frac{61}{17} \times \frac{17}{13}) = (\frac{1}{6} \times \frac{61}{17}) \times \frac{17}{13}$

c) $\frac{1}{6} + (\frac{54}{5} + \frac{20}{9}) = (\frac{1}{6} + \frac{54}{5}) + \frac{20}{9}$

d) $\frac{16}{15} - (\frac{54}{5} - \frac{16}{11}) = (\frac{16}{15} - \frac{54}{5}) - \frac{16}{11}$

(i) {b,c} (ii) {d,c} (iii) {a,c,b} (iv) {a,d,b} (v) {a,b}

3. Rationalise the denominator of $\frac{1}{4\sqrt{3}}$

(i) $\frac{1}{12}\sqrt{\frac{1}{3}}$ (ii) $\frac{1}{12}\sqrt{6}$ (iii) $\frac{1}{12}\sqrt[4]{3}$ (iv) $\frac{1}{4}$ (v) $\frac{1}{12}\sqrt{3}$

4. Which of the following are true?

a) $\frac{8}{7} \div \frac{167}{18} = \frac{167}{18} \div \frac{8}{7}$

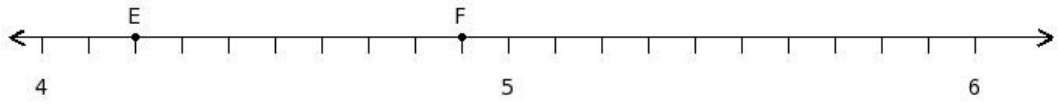
b) $\frac{8}{7} - \frac{114}{11} = \frac{114}{11} - \frac{8}{7}$

c) $\frac{5}{11} + \frac{114}{11} = \frac{114}{11} + \frac{5}{11}$

d) $\frac{5}{11} \times \frac{167}{18} = \frac{167}{18} \times \frac{5}{11}$

(i) {a,d,c} (ii) {c,d} (iii) {a,b,c} (iv) {b,d} (v) {a,c}

5. Find the sum of the rational numbers at the points labelled with letters E and F



(i) $\frac{73}{8}$ (ii) $\frac{91}{10}$ (iii) $\frac{89}{10}$ (iv) $\frac{93}{10}$ (v) $\frac{109}{12}$

6. Which of the following are true?

a) $\frac{14}{11} \div (\frac{36}{5} + \frac{13}{17}) = (\frac{14}{11} \div \frac{36}{5}) + (\frac{14}{11} \div \frac{13}{17})$

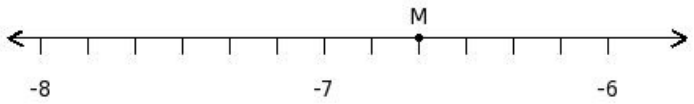
b) $\frac{4}{3} \times (\frac{43}{16} - \frac{17}{9}) = (\frac{4}{3} \times \frac{43}{16}) - (\frac{4}{3} \times \frac{17}{9})$

c) $\frac{4}{3} \times (\frac{36}{5} + \frac{16}{5}) = (\frac{4}{3} \times \frac{36}{5}) + (\frac{4}{3} \times \frac{16}{5})$

d) $\frac{14}{11} - (\frac{43}{16} \times \frac{12}{7}) = (\frac{14}{11} - \frac{43}{16}) \times (\frac{14}{11} - \frac{12}{7})$

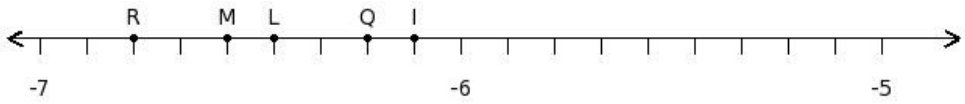
(i) {a,c,b} (ii) {b,c} (iii) {d,c} (iv) {a,d,b} (v) {a,b}

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



(i) $(\frac{-22}{3})$ (ii) -6 (iii) -20 (iv) -4 (v) $(\frac{-20}{3})$

8. Find the position of the rational number $(\frac{-58}{9})$ on the number line



(i) Q (ii) L (iii) I (iv) M (v) R

9. The rationalising factor of $(-8\sqrt{43}) =$

(i) $\sqrt{43}$ (ii) $\sqrt[4]{43}$ (iii) 43 (iv) $\sqrt{46}$ (v) $\sqrt{40}$

10. Which of the following are true?

a) real numbers are closed under division
b) real numbers are closed under subtraction
c) real numbers are closed under multiplication
d) real numbers are closed under addition

(i) {a,b,c} (ii) {a,b} (iii) {a,c} (iv) {a,d} (v) {b,c,d}

11. Rationalise the denominator of $\frac{1}{(-\sqrt{7}+\sqrt{2})}$

(i) $(-\frac{1}{5}\sqrt{7} - \frac{2}{5})$ (ii) $(-\frac{1}{5}\sqrt{7} - \frac{1}{5}\sqrt[4]{2})$ (iii) $(-\frac{1}{5}\sqrt{5} - \frac{1}{5}\sqrt{2})$ (iv) $(-\frac{1}{5}\sqrt{9} - \frac{1}{5}\sqrt{2})$ (v) $(-\frac{1}{5}\sqrt{7} - \frac{1}{5}\sqrt{2})$

12. Which of the following is a rational number?

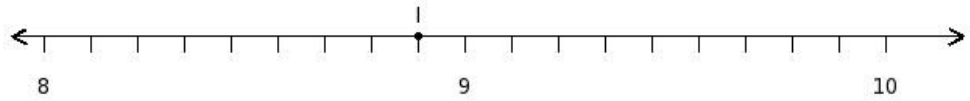
(i) $\sqrt[3]{89}$ (ii) $\frac{5}{26}$ (iii) $\sqrt[3]{72}$ (iv) $\sqrt[3]{17}$ (v) $\sqrt{47}$

13. Rationalise the denominator of $\frac{(\sqrt{2}-\sqrt{3})}{(\sqrt{2}-\sqrt{7})}$ =

(i) $(-\frac{2}{5}+\frac{1}{5}\sqrt{6}-\frac{1}{5}\sqrt{14}+\frac{1}{5}\sqrt{24})$ (ii) $(-\frac{4}{5}+\frac{1}{5}\sqrt{6}-\frac{1}{5}\sqrt{14}+\frac{1}{5}\sqrt{21})$ (iii) $(-\frac{2}{5}+\frac{1}{5}\sqrt{6}-\frac{1}{5}\sqrt{14}+\frac{1}{5}\sqrt{21})$

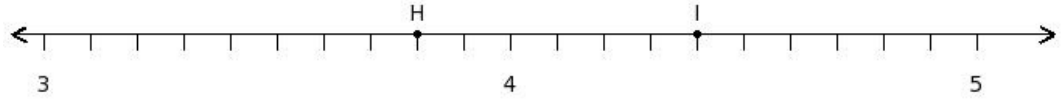
(iv) $(-\frac{2}{5}+\frac{1}{5}\sqrt{6}-\frac{1}{5}\sqrt[4]{14}+\frac{1}{5}\sqrt{21})$ (v) $(-\frac{2}{5}+\frac{1}{5}\sqrt[4]{6}-\frac{1}{5}\sqrt{14}+\frac{1}{5}\sqrt{21})$

14. Find the rational number at the point labelled with letter I



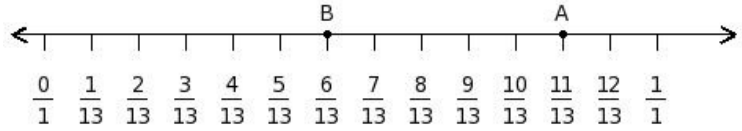
(i) $\frac{80}{7}$ (ii) $\frac{80}{9}$ (iii) $\frac{80}{11}$ (iv) $\frac{82}{9}$ (v) $\frac{26}{3}$

15. Find the difference of the rational numbers at the points labelled with letters H and I



(i) -1 (ii) $(\frac{-1}{5})$ (iii) $(\frac{-3}{7})$ (iv) $(\frac{-3}{5})$

16. Find the difference between the values of numbers at point A and B



(i) $\frac{5}{11}$ (ii) $\frac{3}{13}$ (iii) $\frac{1}{3}$ (iv) $\frac{5}{13}$ (v) $\frac{7}{13}$

17. The rationalising factor of $(-3\sqrt{6}+9\sqrt{5})$ =

(i) $(-3\sqrt{8}-9\sqrt{5})$ (ii) $(-3\sqrt{6}-9\sqrt{5})$ (iii) $(-3\sqrt{3}-9\sqrt{5})$ (iv) $(-3\sqrt{6}-45)$ (v) $(-3\sqrt{6}-9\sqrt[4]{5})$

18. Which of the following is an irrational number?

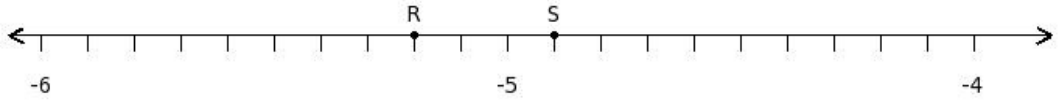
(i) (-9) (ii) 29 (iii) $\sqrt[3]{87}$ (iv) 17.2222 (v) $\frac{1}{12}$

19. Rationalise the denominator of $\frac{1}{(-7\sqrt{6}+4\sqrt{7})}$

(i) $(-\frac{1}{26}\sqrt{3}-\frac{2}{91}\sqrt{7})$ (ii) $(-\frac{1}{26}\sqrt{6}-\frac{2}{13})$ (iii) $(-\frac{1}{26}\sqrt{9}-\frac{2}{91}\sqrt{7})$ (iv) $(-\frac{1}{26}\sqrt{6}-\frac{2}{91}\sqrt[4]{7})$

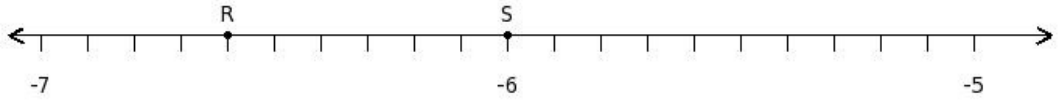
(v) $(-\frac{1}{26}\sqrt{6}-\frac{2}{91}\sqrt{7})$

20. Find the difference of the rational numbers at the points labelled with letters R and S



(i) $(\frac{-1}{4})$ (ii) $(\frac{-1}{2})$ (iii) $(\frac{-3}{10})$ (iv) $(\frac{-3}{8})$ (v) $(\frac{-1}{10})$

21. Find the sum of the rational numbers at the points labelled with letters R and S



(i) -13 (ii) $(\frac{-61}{5})$ (iii) $(\frac{-63}{5})$ (iv) $(\frac{-87}{7})$

22. Rationalise the denominator of $\frac{(-\sqrt{6}-2\sqrt{8})}{(-2\sqrt{5}-\sqrt{7})}$ =

(i) $(\frac{2}{13}\sqrt{30}+\frac{8}{13}\sqrt{10}-\frac{1}{13}\sqrt{42}-\frac{4}{13}\sqrt{14})$ (ii) $(\frac{2}{13}\sqrt{30}+\frac{8}{13}\sqrt{10}-\frac{1}{13}\sqrt{42}-\frac{4}{13}\sqrt{16})$

(iii) $(\frac{2}{13}\sqrt{27}+\frac{8}{13}\sqrt{10}-\frac{1}{13}\sqrt{42}-\frac{4}{13}\sqrt{14})$ (iv) $(\frac{2}{13}\sqrt{30}+\frac{8}{13}\sqrt{10}-\frac{1}{13}\sqrt[4]{42}-\frac{4}{13}\sqrt{14})$

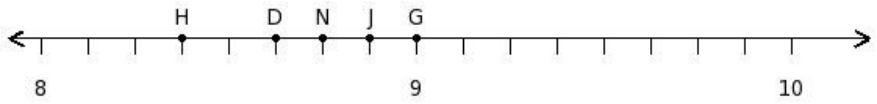
(v) $(\frac{2}{13}\sqrt{30}+\frac{8}{13}\sqrt[4]{10}-\frac{1}{13}\sqrt{42}-\frac{4}{13}\sqrt{14})$

23. Which of the following are true?

a) rational numbers are closed under subtraction
b) rational numbers are closed under division
c) rational numbers are closed under addition
d) rational numbers are closed under multiplication

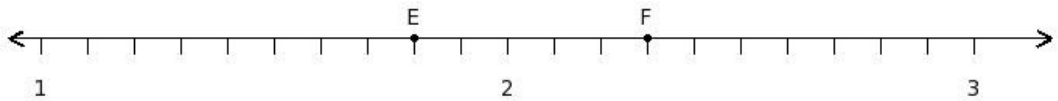
(i) {b,a} (ii) {b,d} (iii) {b,c} (iv) {b,a,c} (v) {a,c,d}

24. Find the position of the rational number $\frac{35}{4}$ on the number line



(i) J (ii) H (iii) G (iv) N (v) D

25. Find the product of the rational numbers at the points labelled with letters E and F



(i) $\frac{209}{50}$ (ii) $\frac{207}{50}$ (iii) $\frac{41}{10}$ (iv) $\frac{215}{52}$ (v) $\frac{199}{48}$

Assignment Key

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