1. Name the properties illustrated in the following statements.
a. $\frac{6}{7}+\frac{3}{8}+\frac{3}{8}+\frac{6}{7}$
b. $\frac{6}{11}\left(\frac{2}{5}+\frac{5}{7}\right)=\frac{6}{11} \times \frac{2}{5} \times \frac{6}{11} \times \frac{5}{7}$
c. $\left(\frac{-8}{9}\right) \times\left(\frac{-7}{8}\right)=\left(\frac{-7}{8}\right) \times\left(\frac{-8}{9}\right)$
d. $\frac{7}{11} \times 1=\frac{7}{11}$
2. Find the additive inverse of the following
a. $\frac{8}{13}$
b. $\frac{-1}{2}$
c. $\frac{-6}{7}$
d. $\frac{-2}{-15}$
3. Find the multiplicative inverse of the following
a. $\frac{2}{7}$
b. $\frac{-4}{-11}$
c. $\frac{8}{35}$
d. $\frac{9}{-41}$
4. If $\mathrm{p}=\frac{-2}{3}$ and $\mathrm{q}=\frac{9}{20}$, verify the following properties.
a. $\mathrm{p} \times \mathrm{q}=\mathrm{q} \times \mathrm{p}$
b. $p+q=q+p$
c. $\mathrm{p}-\mathrm{q} \neq \mathrm{q}-\mathrm{p}$
d. $p \div q \neq q \div p$
5. Evaluate the following.
a. $\left(\frac{-2}{9}\right)+\frac{1}{36}$
b. $\left(\frac{-5}{12}\right)-\frac{9}{16}$
c. $\left(\frac{-13}{21}\right) \times\left(\frac{-7}{39}\right)$
d. $\left(\frac{4}{5}\right) \div 16$
6. If $\mathrm{a}=\frac{18}{35}, \mathrm{~b}=\frac{5}{9}, \mathrm{c}=\frac{7}{12}$, then verify.
a. $\mathrm{a} \times(\mathrm{b} \times \mathrm{c})=(\mathrm{a} \times \mathrm{b}) \times \mathrm{c}$
b. $\mathrm{ax}(\mathrm{b}-\mathrm{c})=(\mathrm{axb})-(\mathrm{axc})$
7. Add the following using associative property of addition.
a. $\left(\frac{-1}{2}\right)+\frac{7}{38}+\frac{9}{19}$
b. $\frac{1}{4}+\left(\frac{-7}{12}\right)+\left(\frac{-3}{7}\right)$
8. Simplify the following using distributive property.
a. $\frac{5}{14} \times \frac{4}{15}+\frac{5}{14} \times \frac{12}{25}$
b. $\left(\frac{-9}{13}\right) \times\left(\frac{-7}{18}\right)-\left(\frac{-9}{13}\right) \times\left(\frac{-5}{24}\right)$
9. Evaluate the following
a. $\left(\frac{-10}{13}\right) \times \frac{5}{12} \times \frac{26}{15} \times\left(\frac{7}{-8}\right)$
b. $\frac{3}{4} \times\left(\frac{-9}{20}\right) \times\left(\frac{-7}{-12}\right) \times\left(\frac{16}{27}\right)$
10.A drum full of wheat weighs $\frac{241}{8} \mathrm{~kg}$. If the empty drum weighs $\frac{55}{6} \mathrm{~kg}$. find the weight of wheat in the drum.
10. A basket contains three types of vegetables, onions, potatoes and brinjal. The total weight of the vegetables in the basket is $19 \frac{4}{5} \mathrm{~kg}$. If the weight of onions is $\frac{65}{8} \mathrm{~kg}$, and the weight of potatoes is $\frac{19}{5} \mathrm{~kg}$, then what is the weights of the brinjals in the basket?

## MATHEMATICS

8TH ICSE DPP-2

1. Represent the following numbers on a number line.
a) $\frac{2}{5}$
b) $\frac{13}{7}$
c) $\frac{-4}{11}$
d) $\frac{-15}{9}$
2. Represent the following numbers on the same number line.
a) $\frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}$
b) $\frac{-1}{6}, \frac{1}{3}, \frac{3}{2}, \frac{-5}{6}$
c) $\frac{2}{5}, \frac{-7}{10}, \frac{1}{10}, \frac{-3}{5}$
d) $\frac{5}{2}, \frac{-2}{5}, \frac{-1}{5}, \frac{3}{2}$
3. Identify the rational number represented by $A, B$ and $C$ in the given number line.
4. Insert 5 rational numbers between:
a) $\frac{-3}{11}$ and $\frac{-1}{13}$
b) $\frac{-1}{8}$ and $\frac{1}{3}$
5. Find any 10 rational numbers between:
a) $\frac{1}{10}$ and $\frac{2}{15}$
b) $\frac{2}{13}$ and $\frac{3}{13}$
6. How many rational numbers can be written between 1 and 2 ?
7. Evaluate $\frac{5}{3}+\frac{11}{2}+\left(\frac{-9}{4}\right)+\left(\frac{-8}{3}\right)+\left(\frac{-7}{2}\right)$
8. A number is $2 \frac{1}{2}$ times as large as another number. The sum of the numbers is 28 . find the numbers.
9. State whether the following statements are true or false.
a) The reciprocal of a positive rational number is a positive rational number.
b) Only finite number of rational numbers can be found between two given rational numbers.
c) Subtraction of integers always given an integer as the answer.
d) The identity element of addition of rational numbers is 1 .
e) Zero has no reciprocal.
10. Fill in the blanks.
a) The sum of two rational numbers is a $\qquad$ number.
b) The additive inverse of $\frac{-5}{6}$ is $\qquad$
c) The product of a rational number and 1 is. $\qquad$
d) The reciprocal of $\frac{-8}{11}$ is $\qquad$
e) $\qquad$ divided by any number is zero.
11. Fill in the blanks.
a) $\frac{1}{2}+\left(\frac{-5}{7}\right)=\left(\frac{-5}{7}\right)+\cdots$.
b) $\frac{1}{15} \times\left(\frac{-2}{13}\right)=\left(\frac{-2}{13}\right)+\cdots$
c) $\frac{7}{11}\left(\frac{1}{5}+\frac{2}{9}\right)=\frac{7}{11} \times \frac{1}{5}+\cdots$
d) $\frac{-4}{9}+\left(\frac{8}{11}+\frac{5}{22}\right)=\cdots$ $\qquad$ $+\frac{5}{22}$
12. Find 10 rational numbers between $\frac{-3}{4}$ and $\frac{-2}{5}$
5.Write the decimal representation of the following numbers
a) $\frac{-2}{5}$
b) $\frac{4}{3}$
c) $\frac{-15}{7}$
d) $\frac{-6}{11}$
13. If $\mathrm{p}=\frac{2}{3}, \mathrm{q}=\frac{2}{3}, \mathrm{r}=\frac{2}{3}$, then verify the following.
a. $\mathrm{p}+\mathrm{q}=\mathrm{q}+\mathrm{p}$
b. $p(q+r)=p \times q+p \times r$
c. $p(q-r)=p \times q-p x r$
