



MATHS

NCERT - NCERT

Mathematics(HINGLISH)

RATIONAL NUMBERS

Exercise 9 1

1. Which is greater in each of the following: (i)

$$\frac{2}{3}, \frac{5}{2} \quad \text{(ii)} \quad \frac{-5}{6}, \frac{-4}{3} \quad \text{(iii)} \quad \frac{-3}{4}, \frac{2}{-3} \quad \text{(iv)} \quad \frac{-1}{4}, \frac{1}{4}$$

$$(v) (-3)\frac{2}{7}, (-3)\frac{4}{5}$$



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2. Which of the following pairs represent the same rational number ?

$$(i) \frac{-7}{21} \text{ and } \frac{3}{9}$$

$$(ii) \frac{16}{20} \text{ and } \frac{20}{-25}$$

$$(iii) \frac{-2}{-3} \text{ and } \frac{2}{3}$$

$$(iv) \frac{-3}{-5} \text{ and } \frac{-12}{20}$$

$$(v) \frac{8}{-5} \text{ and } \frac{-24}{15}$$

(vi) $\frac{1}{3}$ and $\frac{-1}{9}$

(vii) $\frac{-5}{-9}$ and $\frac{5}{-9}$



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3. Write the following rational numbers in

ascending order: (i) $\frac{-3}{5}, \frac{-2}{5}, \frac{-1}{5}$ (ii)

$\frac{-1}{3}, \frac{-2}{9}, \frac{-4}{3}$ (iii) $\frac{-3}{7}, \frac{-3}{2}, \frac{-3}{4}$



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4. Rewrite the following rational numbers in

the simplest form : (i) $\frac{-8}{6}$ (ii) $\frac{25}{45}$ (iii) $\frac{-44}{72}$

(iv) $\frac{-8}{10}$



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5. Give four rational numbers equivalent to: (i)

$\frac{-2}{7}$ (ii) $\frac{5}{-3}$ (iii) $\frac{4}{9}$



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6. Draw the number line and represent the following rational numbers on it : (i) $\frac{3}{4}$ (ii) $\frac{-5}{8}$ (iii) $\frac{-7}{3}$ (iv) $\frac{7}{8}$



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7. Fill in the boxes with the correct symbol out of $>$, $<$, and $=$

$$(i) \frac{-5}{7} \square \frac{2}{3}$$

$$(ii) \frac{-4}{5} \square \frac{-5}{7}$$

$$(iii) \frac{-7}{8} \square \frac{14}{-16}$$

$$(iv) \frac{-8}{5} \square \frac{-7}{4}$$

$$(v) \frac{1}{-3} \square \frac{-1}{4}$$

$$(vi) \frac{5}{-11} \square \frac{-5}{11}$$

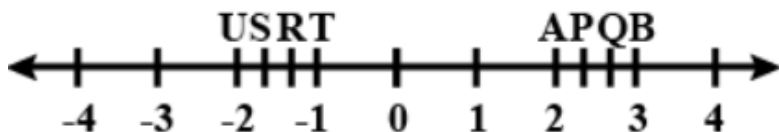
$$(vii) 0 \square \frac{-7}{6}$$



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8. The points P, Q, R, S, T, U, A and B on the number line are such that, $TR = RS = SU$ and $AP = PQ = QB$. Name the rational numbers

represented by P, Q, R and S.



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9. Write four more rational numbers in each of the following patterns :

(i) $\frac{-3}{5}, \frac{-6}{10}, \frac{-9}{15}, \frac{-12}{20}, \dots$

(ii) $\frac{-1}{4}, \frac{-2}{8}, \frac{-3}{12}, \dots$

(iii) $\frac{-1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \dots$

(iv) $\frac{-2}{3}, \frac{2}{-3}, \frac{4}{-6}, \frac{6}{9}, \dots$



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10. List five rational numbers between: (i)

-1 and 0 (ii) -2 and -1 (iii)

$\frac{-4}{5}$ and $\frac{-2}{3}$ (iv) $-\frac{1}{2}$ and $\frac{2}{3}$



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Exercise 9 2

1. Find (i) $\frac{7}{24} - \frac{17}{36}$ (ii) $\frac{5}{63} - \left(\frac{-6}{21}\right)$ (iii)

$\frac{-6}{13} - \frac{7}{11}$ (v) $-\frac{2}{9} - 6$



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2. Find the product:

$$(i) \frac{9}{2} \times \left(\frac{-7}{4} \right)$$

$$(ii) \frac{3}{10} \times (-9)$$

$$(iii) \frac{-6}{5} \times \frac{9}{11}$$

$$(iv) \frac{3}{7} \times \left(\frac{-2}{5} \right)$$

$$(v) \frac{3}{-5} \times \frac{-5}{3}$$



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3. Find the sum:

$$(i) \frac{5}{4} + \left(\frac{-11}{4} \right), (ii) \frac{5}{3} + \frac{3}{5}, (iii) \frac{-9}{10} + \frac{22}{15}$$

$$(iv) \frac{-3}{-11} + \frac{5}{9}, (v) \frac{-8}{19} + \frac{(-2)}{57}, (vi)$$

$$\frac{-2}{3} + 0$$

$$(vii) -2\frac{1}{3} + 4\frac{3}{5}$$



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4. Find the value of:

$$(i) (-4) \div \frac{2}{3}$$

$$(ii) \frac{-3}{5} \div 2$$

$$(iii) \frac{-4}{5} \div (-3)$$

$$(iv) \frac{-1}{8} \div \frac{3}{4}$$

$$(v) \frac{-2}{13} \div \frac{1}{7}$$

$$(vi) \frac{-7}{12} \div \left(\frac{-2}{13} \right)$$

$$(vii) \frac{3}{13} \div \left(\frac{-4}{65} \right)$$



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Solved Examples

1. Reduce $\frac{-45}{30}$ to the standard form.

A. $-\frac{9}{6}$

B. $-\frac{3}{2}$

C. $-\frac{45}{30}$

D. $-\frac{15}{10}$

Answer: B



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2. Reduce to standard form :

(i) $\frac{36}{-24}$ (ii) $\frac{-3}{-15}$



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3. Do $\frac{4}{-9}$ and $\frac{16}{-36}$ represent the same rational number ?



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4. List three rational numbers between -2 and -1 .



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5. Write four more numbers in the following

pattern $\frac{-1}{3}, \frac{-2}{6}, \frac{-3}{9}, \frac{-4}{12}$



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6. Satpal walks $\frac{2}{3}km$ from a place P , towards east and then from there $(1)\frac{5}{7}km$ towards west. Where will he be now from P ?



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