doubtnut
India's Number 1 Education App

MATHS

NCERT - NCERT Mathematics(English)

RATIONAL NUMBERS

Exercise 9 1

1. Which is greater in each of the following:

(i) $\frac{2}{3}, \frac{5}{2}$

(ii) $\frac{-5}{6}, \frac{-4}{3}$

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

(iv) $\frac{-1}{4}, \frac{1}{4}$

(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) $\frac{-7}{21}$ and $\frac{3}{9}$ (ii) $\frac{16}{20}$ and $\frac{20}{-25}$ (iii) $\frac{-2}{-3}$ and $\frac{2}{3}$ (iv) $\frac{-3}{-5}$ and $\frac{-12}{20}$ (v) $\frac{8}{-5}$ 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. 7).Rewrite the following rational numbers in the simplest form:(i)$-\frac{8}{6}$(ii)$\frac{25}{45}$(iii)$-\frac{44}{72}$(iv)$-\frac{8}{10}$ (8).Fill in the boxes with the correct symbol out of >, <, and =.(i) (ii) (iii) (iv) (v) (vi) (vii)

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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) $\frac{-3}{5}, \frac{-6}{10}, \frac{-9}{15}, \frac{-12}{20}, \ldots\ldots$ (ii) $\frac{-1}{4}, \frac{-2}{8}, \frac{-3}{12}, \ldots\ldots$ (iii) $\frac{-1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \ldots\ldots$ (iv) $\frac{-2}{3}, \frac{2}{-3}, \frac{4}{-6}, \frac{6}{-9}, \ldots\ldots$

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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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Solved Examples

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

A. -9/6

B. -3/2

C. -45/30

D. -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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Exercise 9 2

1. Find

(i) $\frac{7}{24} - \frac{17}{36}$

(ii) $\frac{5}{63} - \left(\frac{-6}{21}\right)$

(iii) $\frac{-6}{13} - \frac{7}{11}$

(iv) $-\frac{2}{9} - 6$

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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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