



MATHS

BOOKS - SWAN PUBLICATION

RATIONAL NUMBERS

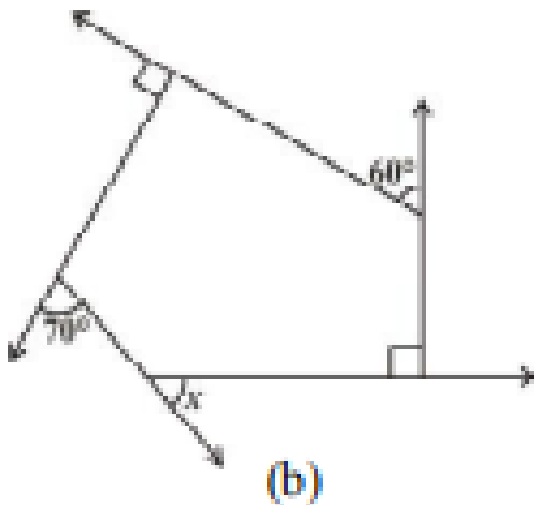
Try These

1. Are all whole numbers also natural numbers?



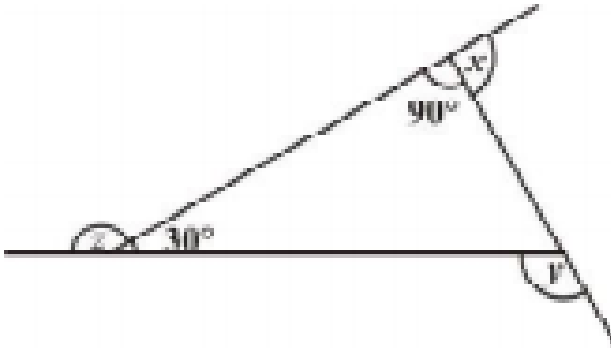
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2. Find x in the following figures.



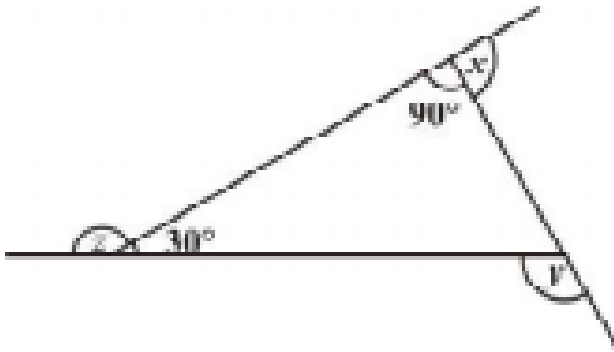
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3. Find $x+y+z$



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4. Find $x+y+z$



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5. Find the using distributivity

$$\left\{ \frac{7}{5} \times \left(\frac{-3}{12} \right) \right\} + \left\{ \frac{7}{5} \times \frac{5}{12} \right\}$$

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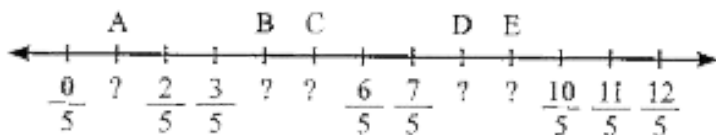
6. Find the using distributivity

$$\left\{ \frac{9}{16} \times \frac{4}{12} \right\} + \left\{ \frac{9}{16} \times \frac{-3}{9} \right\}$$



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7. Write the rational number for each point labelled with a letter.



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Think Discuss And Write

1. A rational number between $\frac{3}{8}$ and $\frac{1}{2}$ will be :



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Exercise 1

1. Using appropriate properties find

$$-\frac{2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{3}{5} \times \frac{1}{6}$$



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2. Using appropriate properties find :

$$\begin{aligned} & \frac{2}{5} \times \left(\frac{-3}{7} \right) - \frac{1}{6} \times \frac{3}{2} + \frac{1}{14} \times \frac{2}{5} \\ &= \frac{2}{5} \times \left(\frac{-3}{7} \right) + \frac{1}{14} \times \frac{2}{5} - \frac{1}{\cancel{6}} \times \frac{\cancel{3}}{2} \\ &= \frac{2}{5} \times \left(\frac{-3}{7} + \frac{1}{14} \right) - \frac{1}{4} \\ &= \frac{2}{5} \times \left(\frac{-6 + 1}{14} \right) - \frac{1}{4} \\ &= \frac{\cancel{2}}{\cancel{5}} \times \frac{-\cancel{5}}{\cancel{14}} - \frac{1}{4} \\ &= \frac{-1}{7} - \frac{1}{4} \\ &= \frac{-4 - 7}{28} \\ &= \frac{-11}{28} \end{aligned}$$



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3. Write the additive inverse of each of the following :

$$2/8$$



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4. Write the additive inverse of each of the following . $\frac{-5}{9}$



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5. Write the additive inverse of each of the following . $\frac{-6}{-5}$



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6. Write the additive inverse of each of the following . $\frac{2}{-9}$



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7. Write the additive inverse of each of the following . $\frac{19}{-6}$



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8. Verify that $-(-x) = x$ for $x = \frac{11}{5}$



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9. Verify that $-(-x) = x$ for

$$x = -\frac{13}{17}$$



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10. Find the multiplicative inverse of the following : -13



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11. Find the multiplicative inverse of the following : $\frac{-13}{19}$



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12. Find the multiplicative inverse of the following : $\frac{1}{5}$



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13. Find the multiplicative inverse of the following : $\frac{-5}{8} \times \frac{-3}{7}$



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14. Find the multiplicative inverse of the following

$$-1 \times \frac{-2}{5}$$



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15. Find the multiplicative inverse of the following : -1



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16. Name the property under multiplication used in each of the following.

$$\frac{-4}{5} \times 1 = 1 \times \frac{-4}{5} = -\frac{4}{5}$$



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17. Name the property under multiplication used in each of the

$$\frac{-13}{17} \times \frac{-2}{7} = \frac{-2}{7} \times \frac{-13}{17}$$



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18. Name the property under multiplication used in each of the following.

$$\frac{-19}{29} \cdot \frac{29}{-19} = 1$$



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19. Multiply $\frac{6}{13}$ by the reciprocal of $\frac{-7}{16}$



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20. Tell what property allows you to compute

$$\frac{1}{3} \times \left(6 \times \frac{4}{3} \right) \text{ as } \left(\frac{1}{3} \times 6 \right) \times \frac{4}{3}$$



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21. Is $\frac{8}{9}$ the multiplicative inverse of $-1\frac{1}{8}$?

Why or why not?



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22. Is 0.3 the multiplicative inverse of $3\frac{1}{3}$? Why or why not?



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23. The rational number that does not have a reciprocal.



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24. The rational numbers that are equal to their reciprocals.



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25. The rational number that is equal to its negative.



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26. Fill in the blanks : Zero has _____
reciprocal.



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27. Fill in the blanks : The numbers _____ and
_____ are their own reciprocals



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28. Fill in the blanks :

The reciprocal of -5 is



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29. Fill in the blanks : Reciprocal of $\frac{1}{x}$, where $x \neq 0$ is _____.



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30. Fill in the blanks :

The product of two rational numbers is always

a



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31. Fill in the blanks :

The reciprocal of a positive rational number is

.....



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Exercise 2

1. Represent these numbers on the number

line. $\frac{7}{4}$



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2. Represent these numbers on the number

line. $\frac{-5}{6}$



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3. Represent $\frac{-2}{11}, \frac{-5}{11}, \frac{-9}{11}$ on the number line.



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4. Write five rational numbers which are smaller than 2.



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5. Find ten rational numbers between $\frac{-2}{5}$ and $\frac{1}{2}$.



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6. Find five rational numbers between $\frac{2}{3}$ and $\frac{4}{5}$



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7. Find five rational numbers between $\frac{-3}{2}$ and $\frac{5}{3}$



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8. Find five rational numbers between $\frac{1}{4}$ and $\frac{1}{2}$



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9. Write five rational numbers greater than -2.



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10. Find ten rational numbers between $\frac{3}{5}$ and $\frac{3}{4}$





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