



MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

LINEAR EQUATIONS IN ONE VARIABLE

Example

1. Find the solution of the equation $4x = 12$

A. $x = 4$

B. $x = 3$

C. $x = -3$

D. $x = 0$

Answer: B



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2. Solve the equation $3x - 5 = 7 - x$ by the trial-and-error method.



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3. Solve the equation $\frac{1}{3}y + 5 = 8$ by the trial-and-error method.



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4. Solve the equation $x - 5 = 7$ and check the result.



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5. Solve the equation $8 + x = 3$ and check the result.



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6. Solve the equation $8x = 24$ and check the result.



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7. Solve the equation $\frac{2}{3}x = 18$ and check the result.



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8. Solve for x : $3x + 5 = 13 - x$.

A. 2

B. 3

C. 4

D. 5

Answer: A



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9. Solve : $x - 7 = 5 + \frac{x}{2}$. Check the result.



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10. Solve: $3(x + 3) - 2(x - 1) = 5(x - 5)$.

Check the result.



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11. Solve: $\frac{x}{8} - \frac{1}{2} = \frac{x}{6} - 2$. Check the result.



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12. If 5 is subtracted from three times a number, the result is 16. Find the number.

A. 7

B. 21

C. 5

D. None of these

Answer: A



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13. Find two numbers such that one of them exceeds the other by 9 and their sum is 81.



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14. The length of a rectangular field is twice its breadth. If the perimeter of the field is 228 metres, find the dimensions of the field.



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15. Mona's father is thrice as old as Mona. After 12 years, his age will be twice that of his daughter. Find their present ages.



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Exercise 9 A

1. Write the statements as an equation:

(i) 5 times a number equals 40.

(ii) A number increased by 8 equals 15.

(iii) 25 exceeds a number by 7.

(iv) A number exceeds 5 by 3.

(v) 5 subtracted from thrice a number is 16.

(vi) If 12 is subtracted from a number, the result is 24.

(vii) Twice a number subtracted from 19 is 11.

(viii) A number divided by 8 gives 7.

(ix) 3 less than 4 times a number is 17.

(x) 6 times a number is 5 more than the number.



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2. Write a statement of the equation, given below:

(i) $x - 7 = 14$

(ii) $2y = 18$

(iii) $11 + 3x = 17$

(iv) $2x - 3 = 13$

$$(v) 12y - 30 = 6$$

$$(vi) \frac{2z}{3} = 8$$



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3. Verify by substitution that the root of .

(i) $3x - 5 = 7$ is $x = 4$.

(ii) $3 + 2x = 9$ is $x = 3$.

(iii) $5x - 8 = 2x - 2$ is $x = 2$.

(iv) $8 - 7y = 1$ is $y = 1$.

(v) $\frac{z}{7} = 8$ is $z = 56$.



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4. Solve the equation by the trial-and-error method.

(i) $y + 9 = 13$

(ii) $x - 7 = 10$

(iii) $4x = 28$

(vi) $3y = 36$

(v) $11 + x = 19$

(vi) $\frac{x}{3} = 4$

(vii) $2x - 3 = 9$

(viii) $\frac{1}{2}x + 7 = 11$

$$(ix) 2x + 4 = 3y$$

$$(x) z - 3 = 2z - 5$$



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Exercise 9 B

1. Solve : $x + 5 = 12$. Check the result.



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2. Solve: $x + 3 = -2$. Check the result.



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3. Solve: $x - 7 = 6$. Check the result.



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4. Solve: $x - 2 = -5$. Check the result.



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5. Solve: $3x - 5 = 13$. Check the result.



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6. Solve: $4x + 7 = 15$. Check the result.



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7. Solve: $\frac{x}{5} = 12$. Check the result.



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8. Solve: $\frac{3x}{5} = 12$. Check the result.



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9. Solve: $5x - 3 = x + 17$. Check the result.



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10. Solve: $2x - \frac{1}{2} = 3$. Check the result.



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11. Solve: $3(x + 6) = 24$. Check the result.



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12. Solve: $6x + 5 = 2x + 17$. Check the result.



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13. Solve: $\frac{x}{4} - 8 = 1$. Check the result.

A. $x = 45$

B. $x = 40$

C. $x = 36$

D. $x = 42$

Answer: C



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14. Solve: $\frac{x}{2} = \frac{x}{3} + 1$. Check the result.



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15. Solve: $3(x + 2) - 2(x - 1) = 7$. Check the result.



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16. Solve: $5(x - 1) + 2(x + 3) + 6 = 0$. Check the result.



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17. Solve: $6(1 - 4x) + 7(2 + 5x) = 53$. Check the result.



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18. Solve: $16(3x - 5) - 10(4x - 8) = 10$.

Check the result.



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19. Solve: $3(x + 6) + 2(x + 3) = 64$. Check the result.



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20. Solve: $3(2 - 5x) - 2(1 - 6x) = 1$. Check the result.



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21. Solve: $\frac{n}{4} - 5 = \frac{n}{6} + \frac{1}{2}$. Check the result.



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22. Solve: $\frac{2m}{3} + 8 = \frac{m}{2} - 1$. Check the result.



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23. Solve: $\frac{2x}{5} - \frac{3}{2} = \frac{x}{2} + 1$. Check the result.



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24. Solve: $\frac{x - 3}{5} - 2 = \frac{2x}{5}$. Check the result.

A. $x = -16$

B. $x = -15$

C. $x = -13$

D. $x = -14$

Answer: C



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25. Solve: $\frac{3x}{10} - 4 = 14$. Check the result.



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26. Solve: $\frac{3}{4}(x - 1) = x - 3$. Check the result.

A. $x = 11$

B. $x = 9$

C. $x = 10$

D. $x = 12$

Answer: B



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Exercise 9 C

1. If 9 is added to a certain number, the result is 36. Find the number.



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2. If 11 is subtracted from 4 times a number, the result is 89. Find the number.

A. 28

B. 27

C. 25

D. 26

Answer: C



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3. Find a number which when multiplied by 5 is increased by 80.

A. 30

B. 40

C. 20

D. 10

Answer: C



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4. The sum of three consecutive natural numbers is 114. Find the numbers.

A. 32 , 33 ,34

B. 37, 38, 39

C. 36, 38, 40

D. 40 , 41 , 42

Answer: B



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5. When Raju multiplied a certain number by 17 and adds 4 to product, he gets 225. Find that number.



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6. If a number is tripled and the result is increased by 5, we get 50. Find the number.



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7. Find two numbers such that one of them exceeds the other by 18 and their sum is 92.



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8. One out of two numbers is thrice the other.
If their sum is 124, find the numbers.



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9. Find two numbers such that one of them is
five times the other and their difference is 132.



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10. The sum of two consecutive even numbers is 74. Find the numbers.



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11. The sum of three consecutive odd numbers is 21. Find the numbers.



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12. Reena is 6 years older than her brother Ajay. If the sum of their ages is 28 years, what are their present ages ?



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13. Deepak is twice as old as his brother Vikas. If the difference of their ages be 11 years, find their present ages.



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14. Mrs Goel is 27 years older than her daughter Rekha. After 8 years she will be twice as old as Rekha. Find their present ages.



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15. A man is 4 times as old as his son. After 16 years he will be only twice as old as his son. Find their present ages.



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16. A man is thrice as old as his son. Five years ago the man was four times as old as his son. Find their present ages.



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17. After 16 years, Fatima will be three times as old as she is now. Find her present age.



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18. After 32 years, Rahim will be 5 times as old as he was 8 years ago. How old is Rahim today?



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19. A bag contains 25-paisa and 50-paisa coins whose total value is Rs30. If the number of 25-paisa coins is four times that of 50-paisa coins, find the number of each type of coins.



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20. Five times the price of a pen is Rs. 17 more than three times its price. Find the price of the pen.



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21. The number of boys in a school is 334 more than the number of girls. If the total strength of the school is 572, find the number of girls in the school.



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22. The length of a rectangular park is thrice its breadth. If the perimeter of the park is 168 metres, find its dimensions.



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23. The length of a rectangular hall is 5 metres more than its breadth. If the perimeter of the hall is 74 metres, find its length and breadth.



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24. A wire of length 86 cm is bent in the form of a rectangle such that its length is 7 cm more than its breadth. Find the length and the breadth of the rectangle so formed.



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Test Paper

1. A man earns Rs. 25 per hour. How much does he earn in x hours?



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2. The cost of 1 pen is Rs. 16 and the cost of 1 pencil is Rs. 5. What is the total cost of x pens and y pencils.



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3. Lalit earns Rs. x per day and spends Rs. y per day. How much does he save in 30 days?



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4. Three times a number added to 8 gives 20.

Find the number.



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5. If $x = 1$, $y = 2$ and $z = 3$, find the value of

$$x^2 + y^2 + 2xyz.$$



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6. Solve: $4x + 9 = 17$.



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7. Solve: $3(x + 2) - 2(x - 1) = 7$.



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8. Solve: $\frac{2x}{5} - \frac{x}{2} = \frac{5}{2}$.



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9. The sum of three consecutive natural numbers is 51. Find the numbers.



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10. After 16 years, Seema will be three times as old as she is now. Find her present age.



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[Test Paper Choose The Correct Answer](#)

1. By how much does 1 exceed $2x - 3y - 4$?

A. $2x - 3y - 5$

B. $2x - 3y - 3$

C. $5 - 2x + 3y$

D. none of these

Answer: C



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2. What must be added to $5x^3 - 2x^2 + 6x + 7$ to make the sum $x^3 + 3x^2 - x + 1$?

A. $4x^3 - 5x^2 + 7x + 6$

B. $-4x^3 + 5x^2 - 7x - 6$

C. $4x^3 + 5x^2 - 7x + 6$

D. none of these

Answer: B



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3. $2x - [3y - \{2x - (y - x)\}] = ?$

A. $5x - 4y$

B. $4y - 5x$

C. $5y - 4x$

D. $4x - 5y$

Answer: A



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4. The coefficient of x in $-5xyz$ is

A. -5

B. $5yz$

C. $-5yz$

D. yz

Answer: C



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5. $\frac{1}{3}(x + y + z)$ is a

A. monomial

B. binomial

C. trinomial

D. quadrinomial

Answer: C



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6. If $\frac{x}{5} = 1$, then

A. $x = \frac{1}{5}$

B. $x = 5$

C. $x = (5 + 1)$

D. none of these

Answer: B



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7. If $x = 1, y = 2$ and $z = 3$ then

$$(x^2 + y^2 + z^2) = ?$$

A. 6

B. 12

C. 14

D. 15

Answer: C



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8. If $\frac{1}{3}x + 5 = 8$, then $x = ?$

A. 3

B. 6

C. 9

D. 12

Answer: C



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Test Paper Fill In The Blanks

1. An expression having one term is called a

..... .



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2. An expression having two terms is called a

..... .



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3. An expression having three terms is called a

..... .



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4. Find the value of x.

$$3x-5=7-x$$



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5. $(b^2 - a^2) - (a^2 - b^2) - \dots\dots\dots$



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Test Paper Write True T And False F

1. $-3xy^2z$ is a monomial.



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2. $x = \frac{2}{3}$ is a solution of $2x + 5 = 8$.



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3. $2x + 3 = 5$ is a linear equation.



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4. Write it T or F. The coefficient of x in $5xy$ is 5.



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5. Write statement T or F

$$8-x=5, x=3'$$



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