



MATHS

NCERT - NCERT MATHS(TELUGU)

INTRODUCTION TO ALGEBRA



 Find the rule which gives the number of matchsticks required to make the pattern: A pattern of letter H 2. a line of shapes is constructed using matchsticks. i) find the rule that shows how many sticks are needed to make a group of such shapes? ii) how many matchsticks are needed to form a group of 12 shapes? \overrightarrow{II} \overrightarrow{II}

3. Find the rule which gives the number of matchsticks required to make the following matchsticks patterns. i) a pattern of letter 'I'. ii) a pattern of letter 'E'. iii) a pattern of letter 'Z'.

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4. Make a rule between the number of blades required and the number of fans (say n) in a hall?





6. The cost of one pen is ₹7 then what is the

rule for the cost of 'n' pens?





7. The cost of one bag is ₹90. What is the rule

of 'm' bags?



8. The rule for purchase of books is that the cost of q books is ₹23, then find the price of one book?

9. John says that he has two books less then

Gaytri has write the relationship using letter x.

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10. Rekha has 3 books more than twice the books with suresh. Write the relationship using letter y.

11. A teacher distributes 6 pencils per student. Can you find how many pencils are needed for the given number of students. (use 'z' for the number of students).

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12. complete each table to generate the given

functional

relationship.

i)	x	1	2	3	4	5	9	
	3x + 2	5						38
ii)	·a	1	3	6	7	9	8	
	5a – 1	4	•••••				•••••	49

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13. observe the following pattern. Count the number of line segments in each shape. i) how many line segments will such shapes contain?



is multiplied by 5.

15. Write the expressions for the statements: y

is divided by 4.

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16. Write the expressions for the statements:one fourth of the product of numbers p and q.

17. Write the expressions for the statements: 5

is added to the three times z.

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18. Write the expressions for the statements:9

times 'n' is added to '10'.

19. Write the expressions for the statements:

16 is subtracted from two times y.

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20. Write the expressions for the statements: y is multiplied by 10 and then x is added to the product.

21. Write two statements for the expression: y-

11.



22. Write two statements for the expression:

10a.



23. Write two statements for the expression:





 25. Write two statements for the

 expression:2y-5.

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26. Pete has 'p' number of balls. Number of balls with David is 3 times the balls with peter. Write this as an expression.

27. Sita has 3 more note books than gita. Find the number of books that sita has? Use any letter for the number of books that gita has.



28. Cadets are marching in a parade. There are 5 cadets in each row. What is the rule for number of cadets, for a given number of rows? Use 'n' for the number of rows.



29. Find the general rule for the perimeter of a rectangle. Use variables 'l' and 'b' for length and breadth of the rectangle respectively.



30. Find the general rule for the area of a square by using the variable 's' for the side of a square.

31. What would be the rule for perimeter of an

isosceles triangle?

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32. Find the n^{th} term in the following

sequence: 3,6,9,12,....



33. Find the n^{th} term in the following sequence: 2,5,8,11,.....

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34. Find the next term in the following sequence: 1,8.27,64,125,.....





37. Write LHS and RHS of simple equations:3p+5=2p+10

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38. Find the solution of the equation 'x-4=2' by

trial and error method.







45. State it is a equation or not: 2s-2=12.



47. State it is a equation or not: 3x < 15.

48. State it is a equation or not: 12x-5=3`.





53. Write the LHS and RHS of x-5=6.



56. Write the LHS and RHS of 3p=24.



59. Solve the equation by trial and error method x+3=5.

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60. Solve the equation by trial and error method y-2=7.

61. Solve the equation by trial and error method a-2=6.
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62. Solve the equation by trial and error method 5y=15.



63. Solve the equation by trial and error method 6n=30.

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64. Solve the equation by trial and error method 3z=27.

65. Write the statement as expression adding

5 to x.



67. Write the statement as expression the product of 2,l,m.

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68. Write the statement as expression the

dividing m by 6.

69. Write the statement as expression 7 more

than 6t.



70. Write the statement as expression 9th part

of A.



71. Write the statement as expression 2 is

added to three times k.

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72. Write the statement as expression 10 less

than 3x.



73. Write the statement as expression 17 times

to 2b.



74. Write the statement as expression 11 more

than 3m.


75. Write the statement using variables, constants and arithmetical operations: the perimeter of a square is four times its side.



76. Write the statement using variables, constants and arithmetical operations: the

circumference of a circle is 2π times its side.

77. Write the statement using variables, constants and arithmetical operations: the area of a square is equal to square of its side.

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78. Write the statement using variables, constants and arithmetical operations: the perimeter of a triangle is the sum of the three sides of it.



79. Write the statement using variables, constants and arithmetical operations: profit is the difference of S.P. and C.P.



80. The cost of one book is ₹ 13, then what is

the rule for the cost of 'n' books.



81. The cost of 10 books is ₹ p. what is the rule

for the cost of one book.

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82. Jyothi has 5 books more than double the books Sruthi has. Write the relationship using

'y'.

83. Raju's age is 5 years less than the 3 times of his father's age. Express the relationship with variable 'b'.



84. Sachin has scored 2/3 of the runs scored

by Dravid. Express it with the help of variable

'p'.



85. complete the table to generate the given

functional

relationship.





86. Solve the equation by trial & error method

x+7=10.

87. Solve the equation by trial & error method

y-2=5.



88. Solve the equation by trial & error method

5t=20.



89. Solve the equation by trial & error method



90. Find the value of the expression (a+b+c)

when a=0, b=1, c=2.



91. Find the value of the expression 2a+b-c

when a=1, b=2 and c=0.





93. Ravi scored 11 less than the twice that of

Kishore. Express it using the variable 'z'.

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94. Find the number of matchsticks required

to make the following patterns: A,H,V,W.



96. Observe the following number pattern:

1,3,5,7,9,.....write next 3 numbers in the pattern



97. Find the solution of the equation 3y-1=8 by

trial and error method.

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98. Find the n^{th} term of the series (pattern) 1,

8, 27, 64, 125,....



99. Complete the table to generate the given the given functional relationship: y=3x+2.Find slope of the line



100. If 3 stickers are needed to form one human face, then how many number of

stickers required to form 5 human faces?

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102. Write the LHS and RHS of: 3x+1=5.

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103. Write the LHS and RHS of: $\frac{x}{3}$ =8.





106. Write in symbolic form 22 minus p equal's

-3.



107. Write in symbolic form think a number is multiplied by 5, and add $\frac{3}{2}$ to the product to get 10.

108. Write in symbolic form square of p is multiplied by q.

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109. There are 'm' sections in the class. There are 25 students in each section. Every student pay ₹ 'p' fee every year. Find the total fee paid by the students per year?

1. Number of pencils with Rama is 3 more than Rahim. Find the number of pencils Rama has in terms of what Rahim has?

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2. Hema and Madhavi are sisters. Madhavi is 3

years younger than Hema. Write Madhavi's age

in terms of Hema's age?



5. Madhu plants 5 more Groundnut seeds than Bean seeds. How many Groundnut seeds does he plant (take number of Bean seeds as 'm')

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8. Write a statement for the following expressions:

2р

9. Write statement for the following expressions: 7 + x

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4. Write LHS and RHS of simple equations:2x+1=10,



6. Write L.H.S and R.H.S of the following simple

equations: 5p + 3 = 2p + 9

Write any two simple equations and give
 LHS and RHS.



8. Find the solution of the equation 'x-4=2' by

trial and error method.



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13. Write LHS and RHS of following simple equations: 0 = w + 2

9 = y + 2

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	5a - 1	4						49

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14. Observe the following pattern.



Count the number of line segments in each shape.

.Find the rule of the pattern. How many line segments will 9 such shapes contain?



16. Find the rule which gives the number of match sticks required to make the following match sticks patterns.

A pattern of letter 'T'



17. Find the rule which gives the number of match sticks required to make the following match sticks patterns.

A pattern of letter 'E'



18. Find the rule which gives the number of match sticks required to make the following match sticks patterns.

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29. Observe the following pattern.











Count the number of line segments in each

shape.

Write the rule for the above pattern.





Exercise 9 2

- 1. Write the expressions for the statements: q
- is multiplied by 5.



2. Write the expressions for the statements: y

is divided by 4.



3. Write the expressions for the statements:one fourth of the product of numbers p and q.

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4. Write the expressions for the statements: 5

is added to the three times z.

5. Write the expressions for the statements:9

times 'n' is added to '10'.

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6. Write the expressions for the statements: 16

is subtracted from two times y.

7. Write the expressions for the statements: y is multiplied by 10 and then x is added to the product.



8. Write two statements for the expression: y-

11.

9. Write two statements for the expression:

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Exercise 9 3

1. State what is the vale of x in the equation.

x-3=7

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2. State which of the following make this equation true.

l+5>9

A. 1

B. 5

C. 3

D. 0

Answer:

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3. Which of the following equations are

correct





4. State what is the value of m in the equation,

and type of equation..

$$5+m=\,-\,6$$



5. State whether the following is linear equation and value of s.

2s - 2 = 12

6. State value of x in the given equation.

3x + 5 > 13



7. State type of equation and value of x in the

equation.

3x < 15

8. State x of the following equation.

2x - 5 = 3

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9. State value of y in the given equation.

7y+1 < 22

10. State z in the equation.

$$-3z + 6 = 12$$

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11. State type of equation.

$$2x - 3y = 3$$
12. State type of equation and value of z in the

equation.

$$z^{2} = 4$$



13. Write the LHS and RHS of x-5=6.



14. Write the LHS and RHS of 4y=12.



17. Write the LHS and RHS of 4=x-2.



- **18.** Write L.H.S and R.H.S of the following
- simple equations: 2a 3 = 5

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19. Solve the following equation by Trial & Error Method.

x + 3 = 5

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21. Solve the following equations by trial and

error method: a - 2 = 6

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2z + 3 = 7

40. Write LHS and RHS of the following equations.

3p = 24

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41. Write LHS and RHS of the following equations.

4 = x - 2

42. Write LHS and RHS of the following equations.

2a-3=-5

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43. Solve the following equation by Trial & Error Method.

x + 3 = 5

44. Solve the following equation by Trial & Error Method.

y - 2 = 7



45. Solve the following equation by Trial & Error Method.

a - 2 = 6

46. Solve the following equation by Trial & Error Method.

5y = 15

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47. Solve the following equation by Trial & Error Method.

6n = 30

48. Solve the following equation by Trial &

Error Method.

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following pattern with match sticks?





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