

IITJEE Foundation Practice paper

**INTRODUCTION TO ALGEBRA**

class-6-Mathematics    Number of Questions: 46

For Answers and Solutions, Go to [www.micromerits.com](http://www.micromerits.com)

**1**

What are constants?

- Any integer     A number that can change it's value  
 A letter that can change it's value     None of these

**2**

The republic day was arriving, and the soldiers were preparing for march past. The number of rows were not decided, but the number of columns were 8. Find out the total number of soldiers in terms of  $y$

- $8 + y$       $8 - y$       $8 \div y$       $8y$

**3**

Anusha and Sirisha are sisters. Anusha is 12 years and is 7 years younger than Sirisha. Find out the age of Sirisha.

- 17     18     19     20

**4**

Vishal was very happy, and he decided to buy something for himself using his pocket money. He chose a 500g pastry, which was 108 rupees. Vishal gave him  $x$  rupees. The shopkeeper then gave him 92 rupees back. how much did Vishal originally give ?

- Rs. 90 /-     Rs. 200/-     Rs. 199.8/-     Rs. 201.2/-

5

A school had ordered maths textbooks for the new academic year of 6th grade. The cost of each textbook was ₹200, while the school payed ₹4,00,000. How many textbooks were supposed to come ?

- 1500    2000    2500    3000

6

Sheena wanted to stitch a saree which she saw in the mall. All she knew was that the saree had a beautiful combination of red, blue and purple. When she asked the shopkeeper, he told that it was 6.8 feet long and the red & blue made 3 feet. The embroidery made 0.7 feet. Find the length of purple colour in the saree.

- 3 feet    3.9 feet    3.1 feet    4 feet

7

Miley ordered a very huge strawberry cake from a nearby cake shop. But while baking the cake , the baker made a mistake. He had spilled 9 eggs on the floor . His senior advised that  $\frac{1}{4}$  cup unsweetened applesauce is a substituent of an egg. Find out how much unsweetened applesauce should the baker add to substitute the eggs.

- 2 cups    2 and a quarter cups    2 and a half cups    3 cups

8

Choose the accurate answer in the following algebraic expressions -  
⇒ The sum of  $p$  and  $q$

- $p - q$      $p + q$      $p \times q$     None of these

9

Choose the accurate answer in the following algebraic expressions -  
→ Four times  $r$  added to the difference of 5 and  $q$

- $4r + 5 + q$      $4r - (5q)$      $4r + (5 - q)$      $4 \times r - 5 + q$

10

Ravi has  $m$  number of pens with him. He gives 5 pens to Girish , 3

pens to Sahadev, and 2 pens to manish . How many pens does Ravi have now ?

- $m - (5 - 3 - 2)$      $m - 10$      $m \times 9$      $m + 10$

**11**

Kriti had  $m$  and Sonia had  $n$  number of apples. Kriti ate as much as she could and gave Sonia 2 apples. How many apples does Sonia possess now ?

- $n - m$      $m + n$      $n + 2$      $m + 2$

**12**

Ariana has  $p$  candies and Selena gives her  $p + q$  candies on her birthday. How many candies does Ariana have with her now ?

- $p$      $q$      $2p + q$      $p \times q$

**13**

In an election of his class, Rajiv had achieved 9 votes out of 40. Manish got 10 votes. If there were only three representatives, find out the number of votes Sunny had achieved.

- 21    20    19    18

**14**

The population of India was recorded as 1 billion. Out of this, 370 million were men, 300 million were women and the rest were children. Find out the number of children?

- 330 million children    400 million children    500 million children  
 300 million children

**15**

Munni and her family wanted to see Taj Mahal. The distance from Delhi to Agra is 210 km, and it would approximately take 4 hours to go their by car. They also stopped to have lunch and relax. They reached Agra, after 300 minutes. How much time did they take to have lunch, if they traveled in a constant speed?

- 50 minutes    30 minutes    1 hour    45 minutes

**16**

Reena is  $x$  years, find out how many years she will be in another 24 years in terms of  $x$  itself.

- 24 years     $x + 24$      $12 + 34$  years     $x \times 24$  years

**17**

If  $8y + 35 = 83$ , then find out the value of  $y$

- 5    7    4    6

**18**

" $p$  exceeds  $q$  by 17 ". Express the following in algebraic expression.

- $p \times q = 17$      $p < q$      $p \div 17 = q$      $p - q = 17$

**19**

Rahul traveled to Agra from Jaipur at an average speed of 80 km per hour. If the distance between Agra and Delhi is 240 km, how much time does he take to reach Agra.

- 2 and a half hours    3 hours    3 and half hours    4 hours

**20**

Aasha and her family were shifting to Bangalore from Chennai . The distance between these two places is 350 km. Her average speed is 70 km per hour. By these hints, find out how much time will Aasha and her family take to reach Bangalore.

- 3 hours    4 hours    5 hours    6 hours

**21**

A super-fast flight reached India from California after 13 hours of travelling 13,000 km. Find out the speed of the flight.

- 1000 km / hr    2000 km / hr    2500 km / hr    2600 km / hr

22

Anjali had  $k$  pencils with her. Raman borrowed 10 of them. The next day for her birthday, Geetha gave 1 pencil, Divya gave 3 pencils, Seetha gave 3 pencils and later, Raman gave her 3 pencil. How many pencils does Anjali have with her now?

- $k$      $k - 1$      $k + 1$     None of the above

23

Aman was told by his mother to get 10 capsicums, 1 kg flour, a bread packet and a bunch of coriander and gave him hundred and fifty rupees. When he went to the shop, the shopkeeper told that the bill altogether made 108.67 and tax was 10.04 rupees. Find out how much money should the shopkeeper give back to Aman.

- 31 rupees    30 rupees    31.21 rupees    None of these

24

Sheela has prepared 5 kilograms of dough in one hour and will continue preparing 1 kilogram of dough every hour. How many hours did Sheela work if she prepared 14 kilograms of dough?

- 10    11    8    9

25

If the perimeter of a hexagon is 42 cm, find the length of each side.

- 5    6    7    8

26

Convert the following algebraic expressions into English statements :  
The cost of a chocolate =  $p$   
The cost of an ice cream =  $5p$

- the cost of an ice cream is five times more than chocolate  
 the cost of a chocolate is five times more than the ice cream  
 the number of ice creams are five times more than chocolate  
 the number of chocolates is five times more than ice creams

27

Convert the following algebraic expressions into English statements :  
Reshma is  $k$  years old. Her mother is  $5k$  years old.

- Reshma's mother's age is 5 more than that of Reshma  
 Reshma's mother's age is 5 times more than that of Reshma  
 Reshma's mother and herself were born in the same generation.  None of these

28

If there are  $g$  number of mangoes in one box, how many mangoes will be there in 6 such boxes ?

- $g + 6$    $6g$    $g \div 6$    $g - 6$

29

Anna's mother made cookies because very special guests were coming. After the guests went, 12 cookies were left. If the number of cookies the guests ate were  $t$ , find out the total number of cookies her mother made.

- $t \times 12$    $t \div 12$    $t - 12$    $t + 12$

30

If four square flower beds each of side 2 m are dug on a piece of land 8 m long and 5 m wide, then the area of the land that is not dug up is

- 20 sq.m  24 sq.m  24 cm sq. m  20 cm sq. m

31

Rekha is  $x$  feet while her younger sister is 2 feet less than her, and their father is 3.2 feet more than Rekha's younger sister. Find out the height of Rekha's father.

- $x + 1$    $x \times 1.2$    $x - 5.2$    $x + 1.2$

32

Using the trial and error method, find out the answer of -  
 $x + 10 = 30$

- 10  20  30  40

**33**

Using the trial and error method, find out the answer of -  
 $n - 4 = 7$

- 10    11    12    14

**34**

What is  $x$  if  $x + 2y = 10$  and  $y = 3$ ?

- 3    8    4    6

**35**

Leena's mother was going to the market as she heard of some exciting deals. As she was leaving, Leena stopped her and asked for 12 pens to give one each for her friends. Her mother agreed, but how much more money should she additionally spend? Find the answer in terms of  $x$

- $12 + x$      $12 - x$      $12 \div x$      $12 \times x$

**36**

Perimeter of the square, whose each side is ' $x$ ' cm is

- $4x$      $2x$      $3x$     None of these

**37**

Find out the length of the diameter of a circle if the radius is half of the perimeter of a square which has a side 6 cm

- 24 cm    12 cm    20 cm    22 cm

**38**

How many matchsticks does it take to form the letter 'H'?

- 2    3    4    5

**39**

How many matchsticks does it take to form the letter 'D'?

- 3    4    5    None

40

How many matchsticks does it take to form the word "PHOTOSYNTHESIS"?

- 20  40  45  48

41

If 15 mangoes cost  $15x - 5$ , how much does one mango cost?

- $x$    $15x - 5 \div 5$    $15x - 5$    $x - 5$

42

Five bats and a ball cost Rs. 590. If the ball costs Rs. 52, find out the cost of a bat.

- Rs. 107.9  Rs. 107.6  Rs. 100.6  Rs. 106

43

Ritu scores 82 marks in her exam. She scores 40 marks in long answer type question. For short answer questions, 2 marks are given for each correct answer.

Find out the number of marks scored by her in short answer type questions.

- 42  41  40  45

44

Each girl eats 7 toffees. How many toffees will  $q$  number of girls eat?

- $q$    $5q$    $q7$    $7q$

45

Sashank has 400 chocolates. He sells  $a$  chocolates everyday. Write an algebraic expression to show the number of chocolates he would be left with after  $l$  weeks.

- $400 - a7$    $400 - 7la$    $400 + 7la$    $400 \times 7la$

46

One centimeter equals  $\frac{1}{2.54}$  inches, which expression shows how many inches are there in  $x$  centimeters?



$0.3937 - x$    $0.3937 + x$    $0.3937 \times x$    $0.3937 \div x$

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