TEACHERS FORUM®

QUESTION BANK

(solved)

Class VI

MATHEMATICS

SUBJECT EXPERTS

CONTENTS

1 KNOWING OUR NUMBERS

NCERT SOLUTIONS

EXERCISE 1.1

1. Fill in the blanks:

   (a) 1 lakh = _____ ten thousand.

   (b) 1 million = _____ hundred thousand.

   (c) 1 crore = _____ ten lakh.

   (d) 1 crore = _____ million.

   (e) 1 million = _____ lakh.

Ans. (a) 10 (b) 10 (c) 10 d) 10 (e) 10

2. Place commas correctly and write the numerals:

   (a) Seventy three lakh seventy-five thousand three hundred seven.

   (b) Nine crore five lakh forty one.

   (c) Seven crore fifty-two lakh twenty one thousand three hundred two.

   (d) Fifty-eight million four hundred twenty-three thousand two hundred two.

   (e) Twenty-three lakh thirty thousand ten.

Ans. (a) 73,75,307 (b) 9,05,00,041 (c) 7,52,21,302 (d) 58,423,202 (e) 23,30,010

3. Insert commas suitably and write the names according to Indian System of Numeration :

   (a) 87595762 (b) 8546283 (c) 99900046 (d) 98432701

Ans. (a) 8,75,95,762

Eight crore seventy-five lakh ninety-five thousand seven hundred sixty-two.

(b) 85,46,283

Eight-five lakh forty-six thousand two hundred eighty-three.

(c) 9,99,00,046

Nine crore ninety-nine lakh forty-six.

(d) 9,84,32,701

Nine crore eighty-four lakh thirty-two thousand seven hundred one.

4. Insert commas suitably and write the names according to International System of Numeration :

(a) 78921092 (b) 7452283 (c) 99985102 (d) 48049831

Ans. (a) 78,921,092

Seventy-eight million nine hundred twenty-one thousand ninety-two

(b) 7,452,283

Seven million four hundred fifty-two thousand two hundred eighty-three

(c) 99,985,102

Ninety-nine million nine hundred eighty-five thousand one hundred two

(d) 48,049,831

Forty-eight million forty-nine thousand eight hundred thirty-one

EXERCISE 1.2

1. A book exhibition was held for four days in a school. The number of tickets sold at the counter on the first, second, third and final day was respectively 1094, 1812, 2050 and 2751. Find the total number of tickets sold on all the four days.

Ans.

Number of tickets sold on first day	=	1,094
Number of tickets sold on second day	=	1,812
Number of tickets sold on third day	=	2,050
Number of tickets sold on fourth day	=	+ 2,751
Total tickets sold	=	7,707

So 7,707 tickets were sold on all the four days.

2. Shekhar is a famous cricket player. He has so far scored 6980 runs in test matches. He wishes to complete 10,000 runs. How many more runs does he need?

Ans.

Runs to achieve	=	10,000
Runs scored	=	– 6,980
Runs required	=	3,020

So he needs 3,020 more runs.

3. In an election, the successful candidate registered 5,77,500 votes and his nearest rival secured 3,48,700 votes. By what margin did the successful candidate win the election?

Ans. Number of votes secured by successful candidates = 5,77,500

Number of votes secured by his nearest rival = – 3,48,700

Margin between them = 2,28,800

So the successful candidate won by a margin of 2,28,800 votes.

4. Kirti bookstore sold books worth Rs 2,85,891 in the first week of June and books worth ₹ 4,00,768 in the second week of the month. How much was the sale for the two weeks together? In which week was the sale greater and by how much?

Ans. Books sold in first week = 2,85,891

Books sold in second week = + 4,00,768

Total books sold = 6,86,659

Since, 4,00,768 > 2,85,891, the sale of second week is greater than that of first week.

Books sold in second week = 4,00,768

Books sold in first week = – 2,85,891

Difference in books sold = 1,14,877

So, 1,14,877 more books were sold in second week.

5. Find the difference between the greatest and the least number that can be written using the digits 6, 2, 7, 4, 3 each only once.

Ans. Greatest five-digit number using digits 6,2,7,4,3 = 76432

Smallest five-digit number using digits 6,2,7,4,3 = - 23467

Difference = 52965

So the difference between the numbers is 52965.

6. A machine, on an average, manufactures 2,825 screws a day. How many screws did it produce in the month of January 2006?

Ans. Number of screws manufactured in one day = 2,825

∴ Number of screws manufactured in the month of January (31 days)

= 2,825 × 31 = 87,575

So, the machine produced 87,575 screws in the month of January.

7. A merchant had ₹ 78,592 with her. She placed an order for purchasing 40 radio sets at ₹ 1200 each. How much money will remain with her after the purchase?

Ans. Cost of one radio = ₹ 1200

Cost of 40 radios = 1200 x 40 = ₹ 48,000

Now, Total money with merchant = ₹. 78,592

Money spent by her = - ₹. 48,000

Money left with her after purchase = ₹. 30,592

Therefore, ₹ 30,592 will remain with her after the purchase.

8. A student multiplied 7236 by 65 instead of multiplying by 56. By how much was his answer greater than the correct answer? (Hint: Do you need to do both the multiplications?)

Ans. Wrong answer = 7236 × 65

$$\begin{array}{r} 7236 \\ \times \quad 65 \\ \hline 36180 \\ 43416 \\ \hline 470340 \end{array}$$

Correct answer = 7236 × 56

$$\begin{array}{r} 7236 \\ \times \quad 56 \\ \hline 43416 \\ 36180 \\ \hline 405216 \end{array}$$

Difference in answers = 470340 – 405216 = 65,124

9. To stitch a shirt, 2 m 15 cm cloth is needed. Out of 40 m cloth, how many shirts can be stitched and how much cloth will remain?

(Hint: convert data in cm.)

Ans. Cloth required to stitch one shirt = 2 m 15 cm

= 2 × 100 cm + 15 cm = 215 cm

Length of cloth = 40 m = 40 x 100 cm = 4000 cm

Number of shirts can be stitched = 4000 ÷ 215 = 18

$$\begin{array}{r|l} & 18 \\ 215 & 4000 \\ & \underline{-\ 215} \\ & 1850 \\ & \underline{-\ 1720} \\ & 130 \end{array}$$

Therefore, 18 shirts can be stitched and 130 cm ie.,1 m 30 cm cloth will remain.

10. Medicine is packed in boxes, each weighing 4 kg 500g. How many such boxes can be loaded in a van which cannot carry beyond 800 kg?

Ans. The weight of one box = 4 kg 500 g = 4 × 1000 g + 500 g = 4500 g

Maximum load can be loaded in van = 800 kg = 800 × 1000 g = 800000 g

∴ Number of boxes = 800000 ÷ 4500 = 177.78

Therefore, 177 boxes can be loaded.

11. The distance between the school and the house of a student's house is 1 km 875 m. Everyday she walks both ways. Find the total distance covered by her in six days.

Ans. Distance between school and home = 1.875 km

Distance between home and school = + 1.875 km

Total distance covered in one day = 3.750 km

∴ Distance covered in six days = 3.750 × 6 = 22.500 km

Therefore, 22 km 500 m distance covered in six days.

12. A vessel has 4 litres 500 ml of curd. In how many glasses, each of 25 ml capacity, can it be filled?

Ans. Capacity of curd in a vessel = 4 litres 500 ml

= 4 × 1000 ml + 500 ml = 4500 ml

Capacity of one glass = 25 ml

Number of glasses can be filled = 4500 ÷ 25 = 180

```
      180
25 | 4500
     -25
     200
   - 200
       0
```

Therefore, 180 glasses can be filled.

EXERCISE 1.3

1. Estimate each of the following using general rule:

(a) 730 + 998 (b) 796 – 314 (c) 12,904 +2,888 (d) 28,292 – 21,496

Make ten more such examples of addition, subtraction and estimation of their outcome.

Ans. (a) 730 round off to 700

998 round off to 1000

Estimated sum = 1700

(b) 796 round off to 800

314 round off to 300

Estimated Difference = 500

(c) 12904 round off to 13000

2888 round off to 3000

Estimated sum = 16000

(d) 28292 round off to 28000

21496 round off to 21000

Estimated difference = 7000

2. Give a rough estimate (by rounding off to nearest hundreds) and also a closer estimate (by rounding off to nearest tens) :

(a) 439 + 334 + 4,317 (b) 1,08,734 – 47,599

(c) 8325 – 491 (d) 4,89,348 – 48,365

Ans. (a) 439 round off to 400

334 round off to 300

4317 round off to 4300 +

Estimated sum = 5000

(b) 108734 round off to 108700

47599 round off to - 47600

Estimated difference = 61100

(c) 8325 round off to 8300
491 round off to - 500
Estimated difference = 7800

(d) 489348 round off to 489300
48365 round off to - 48400
Estimated difference = 440900

3. Estimate the following products using general rule:

(a) 578 × 161 (b) 5281 × 3491 (c) 1291 × 592 (d) 9250 × 29

Ans. (a) 578 × 161

578 round off to 600

161 round off to 200

The estimated product = 600 × 200 = 1,20,000

(b) 5281 × 3491

5281 round of to 5,000

3491 round off to 3,500

The estimated product = 5,000 × 3,500 = 1,75,00,000

(c) 1291 × 592

1291 round off to 1300

592 round off to 600

The estimated product = 1300 × 600 = 7,80,000

(d) 9250 × 29

9250 round off to 9,000

29 round off to 30

The estimated product = 9,000 x 30 = 2,70,000

ADDITIONAL QUESTIONS AND ANSWERS

Choose the correct answer :

1. The product of the place values of two 2's in 428721 is

(A) 4 (B) 40000 (C) 400000 (D) 40000000

Ans. (c) Since one 2 is at tens place, its place value = 2 x 10 = 20

Since another 2 is at ten thousand's place its place value = 2 x 10000 = 20000

∴ Their product = 20 x 20000 = 400000

2. 3 × 10000 + 7 × 1000 + 9 × 100 + 0 ×10 + 4 is the same as

(A) 3794 (B) 37940 (C) 37904 (D) 379409

Ans. (c) 3 x 10000 + 7 x 1000 + 9 x 100 + 0 x 10 + 4

= 30000 + 7000 + 900 + 0 + 4 = 37904

3. If 1 is added to the greatest 7- digit number, it will be equal to

(A) 10 thousand (B) 1 lakh (C) 10 lakh (D) 1 crore

Ans. (d) Greatest 7-digit number = 9999999

If 1 is added to the greatest 7-digit number, we get 9999999 + 1 = 10000000 = 1 crore

4. The expanded form of the number 9578 is

(A) 9 × 10000 + 5 × 1000 + 7 × 10 + 8 × 1

(B) 9 × 1000 + 5 × 100 + 7 × 10 + 8 × 1

(C) 9 × 1000 + 57 × 10 + 8 × 1

(D) 9 × 100 + 5 × 100 + 7 × 10 + 8 × 1

Ans. (b) 9578 = 9 × 1000 + 5 × 100 + 7 × 10 + 8 × 1

5. When rounded off to nearest thousands, the number 85642 is

(A) 85600 (B) 85700 (C) 85000 (D) 86000

Ans. (d)

6. The largest 4-digit number, using any one digit twice, from digits 5, 9, 2 and 6 is

(A) 9652 (B) 9562 (C) 9659 (D) 9965

Ans. (d) Descending order of the given digits is 9, 6, 5, 2.

Since, we can use any one digit twice, so the required largest 4-digit number is 9965.

7. In Indian System of Numeration, the number 58695376 is written as

(A) 58,69, 53, 76 (B) 58,695,376 (C) 5,86,95,376 (D) 586,95,376

Ans. (c)

8. One million is equal to

(A) 1 lakh (B) 10 lakh (C) 1 crore (D) 10 crore

Ans. (b) 1 million = 1000000 = 10 lakh

Answer the following :

9. Arrange the followng numbers in descending order:

8435, 4835, 13584, 5348, 25843

Ans. For arranging the numbers in descending order, we have to compare the numbers and arrange them from highest to lowest.

i.e. 25843 > 13584 > 8435 > 5348 > 4835

10. Of the following numbers which is the greatest? Which is the smallest

38051425, 30040700, 67205602

Ans. The greatest number = 67205602 and the smallest number = 30040700

11. Write in expanded form :

(a) 74836 (b) 574021 (c) 8907010

Ans. Expanded form of given numbers are

(a) 74836 = 7 × 10000 + 4 × 1000 + 8 × 100 + 3 × 10 + 6 × 1

(b) 574021 = 5 x 100000 + 7 x 10000 + 4 × 1000 + 0 x 100 + 2 × 10 + 1 × 1

(c) 8907010 = 8 × 1000000 + 9 × 100000 +0 × 10000+7×1000+0×100 + 1 × 10 + 0 × 1

12. As per the census of 2001, the population of four states are given below. Arrange the states in ascending and descending order of their population.

(a) Maharashtra 96878627 (b) Andhra Pradesh 76210007

(c) Bihar 82998509 (d) Uttar Pradesh 166197921

Ans. On arranging the population of four states in ascending order, we get

76210007 < 82998509 < 96878627 < 166197921

(Andhra Pradesh) (Bihar) (Maharashtra) (Uttar Pradesh)

Again, rearranging the population of four states in descending order, we get

166197921 > 96878627 > 82998509 > 76210007

(Uttar Pradesh) (Maharashtra) (Bihar) (Andhra Pradesh)

13. The diameter of Jupiter is 142800000 metres. Insert commas suitably and write the diameter according to International System of Numeration.

Ans. Given, diameter of Jupiter = 142800000

According to International System of Numeration,

Diameter of Jupiter = 142,800,000

14. India's population has been steadily increasing from 439 millions in 1961 to 1028 millions in 2001. Find the total increase in population from 1961 to 2001. Write the increase in population in Indian System of Numeration, using commas suitably.

Ans. Population of India in 1961 = 439 million

= 439 × 1000000 = 439000000 [1 million = 1000000]

population of India in 2001 = 1028 million

= 1028 ×1000000 = 1028000000 [1 milliom = 1000000]

Total increase in population from 1961 to 2001

= Population in 2001 – Population in 1961

= 1028000000 – 439000000

= 589000000 = 589 × 1000000 = 589 million

So, the increase population in Indian System of Numeration = 58,90,00,000

14. Radius of the Earth is 6400km and that of Mars is 4300000m. Whose radius is bigger and by how much?

Ans. Given, radius of the Earth = 6400 km = 6400000 m [1 km = 1000 m]

and radius of Mars = 4300000 m

On comparing both the radii, we get Radius of Earth > Radius of Mars

Difference between the two radii = 6400000 – 4300000 = 2100000 m

Hence, the radius of Earth is bigger and by 2100000 m.

16. In 2001, the poplulations of Tripura and Meghalaya were 3,199,203 and 2,318,822, respectively. Write the populations of these two states in words.

Ans. 3,199,203 : Three million, one hundred ninety-nine thousand, two hundred three.

2,318,822 : Two million, three hundred eighteen thousand, eight hundred twenty-two.

17. In a city, polio drops were given to 2,12,583 children on Sunday in March 2008 and to 2,16,813 children in the next month. Find the difference of the number of children getting polio drops in the two months.

Ans. Difference of the numbers of children = 216813 – 212583 = 4230

18. A person had ₹ 1000000 with him. He purchased a colour T.V. for ₹ 16580, a motor cycle for ₹ 45890 and a flat for ₹ 870000. How much money was left with him?

Ans. Total money = ₹ 1000000

Total amount spent = 16580 + 45890 + 870000 = ₹ 932470

Money left with him = 1000000 – 932470 = ₹ 67530

19. Out of 180000 tablets of Vitamin A, 18734 are distributed among the students in a district. Find the number of the remaining vitamin tablets.

Ans. We have, Remaining vitamin A tablets = 180000 - 18734 = 161266

20. Chinmay had ₹ 610000. He gave ₹ 87500 to Jyoti, ₹ 126380 to Javed and ₹ 350000 to John. How much money was left with him?

Ans. Money left with Chinmay = Total money – Distributed money

= 610000 - (87500 + 126380 + 350000)

= 610000 – 563880 = ₹ 46120

21. Find the difference between the largest number of seven digits and the smallest number of eight digits.

Ans. The largest 7-digit number = 9999999

The smallest 8-digit number = 10000000

Now, difference between the smallest 8-digit number and the largest 7-digit number

= 10000000 – 9999999 = 1

22. A mobile number consists of ten digits. The first four digits of the number are 9, 9, 8 and 7. The last three digits are 3, 5 and 5. The remaining digits are distinct and make the mobile number, the greatest possible number. What are these digits?

Ans. Given, total number of digits = 10

First four digits of the mobile number = 9, 9, 8, 7 and

last three digits of the mobile number = 3, 5, 5

Now, to make the mobile number, the possible distinct digits are 6, 4, 2,1 and 0.

For making the greatest mobile, we can select the digits 6, 4 and 2.

Required mobile number = 9987642355

Hence, the required digits are 6, 4 and 2.

23. A mobile number consists of ten digits. First four digits are 9,9,7 and 9. Make the smallest mobile number by using only one digit twice from 8, 3, 5, 6, 0.

Ans. Given, total number of digits = 10

and first four digits of the mobile number = 9, 9, 7, 9

Also, given digits = 8, 3, 5, 6, 0

Now, to make the smallest mobile number, we will use the smallest digit twice, i.e. 0.

Required mobile number = 9979003568

24. Find the sum of the greatest and the least six digit numbers formed by the digits 2, 0, 4, 7, 6, 5 using each digit only once.

Ans. Given digits are 2, 0, 4, 7, 6 and 5.

The greatest six-digit number = 765420

The smallest six-digit number = 204567

Now, the sum of these numbers = 765420 + 204567 = 969987

25. A factory has a container filled with 35874 litres of cold drink. In how many bottles of 200 ml capacity each can it be filled?

Ans. Given, total cold drink in the container = 35874 L = 35874000 mL [1L = 1000 mL]

and capacity of one bottle = 200 mL

Number of bottles required = Total cold drink in the container/Capacity of one bottle

= 35874000 mL /200 mL = 179370

26. The population of a town is 450772. In a survey, it was reported that one out of every 14 persons is illiterate. In all how many illiterate persons are there in the town?

Ans. Given, total population of town = 450772

One out of every 14 persons, is illiterate.

Now, total illiterate persons = Total population of town/14 = 450772/14 = 32198

27. How many lakhs make five billions?

Ans. 1 billion = 100 crore = 100 × 100 lakh = 10000 lakh

So, 5 billion = 5 × 10000 = 50000 lakh

28. How many millions make 3 crores?

Ans. 1 crore = 10 million

So 3 crore = 3 × 10 million = 30 million

29. Estimate each of the following by rounding off each number to nearest hundreds:

(a) 874 + 478 (b) 793 + 397

(c) 11244 + 3507 (d) 17677 + 13589

Ans. (a) Rounded off 874 to nearest hundreds = 900

Rounded off 478 to nearest hundreds = 500

So, estimated sum = 900 + 500 = 1400

(b) Rounded off 793 to nearest hundr ds = 800

Rounded off 397 to nearest hundreds = 400

So, estimated sum = 800 + 400 = 1200

(c) Rounded off 11244 to nearest hundreds = 11200

Rounded off 3507 to nearest hundreds = 3500

So, estimated sum = 11200 + 3500= 14700

(d) Rounded off 17677 to nearest hundreds = 17700

Rounded off 13589 to nearest hundreds = 13600

So, estimated sum = 17700 + 13600 = 31300

30. Estimate each of the follwoing by rounding off each number to nearest tens:

(a) 11963 – 9369 (b) 76877 – 7783

(c) 10732 – 4354 (d) 78203 – 16407

Ans. (a) Rounded off 11963 to nearest tens = 11960

Rounded off 9369 to nearest tens = 9370

So, estimated difference = 11960 – 9370 = 2590

(b) Rounded off 76877 to nearest tens = 76880

Rounded off 7783 to nearest tens = 7780

So, estimated difference = 76880 - 7780 = 69100

(c) Rounded off 10732 to nearest tens = 10730

Rounded off 4354 to nearest tens = 4350

So, estimated difference = 10730 – 4350 = 6380

(d) Rounded off 78203 to nearest tens = 78200

Rounded off 16407 to nearest tens = 16410

So, estimated difference = 78200 - 16410 = 61790

31. Estimate each of the following products by rounding off each number to nearest tens:

(a) 87 × 32 (b) 311 × 113 (c) 3239 × 28 (d) 1385 × 789

Ans. (a) Rounded off 87 to nearest tens = 90

Rounded off 32 to nearest tens = 30

So, estimated product = 90 × 30 = 2700

(b) Rounded off 311 to nearest tens = 310

Rounded off 113 to nearest tens = 110

So, estimated product = 310 × 110 = 34100

(c) Rounded off 3239 to nearest tens = 3240

Rounded off 28 to nearest tens = 30

So, estimated product = 3240 × 30 = 97200,

(d) Rounded off 1385 to nearest tens = 1390

Rounded off 789 to nearest tens = 790

So, estimated product = 1390 × 790 = 1098100,

32. The population of a town was 78787 in the year 1991 and 95833 in the year 2001. Estimate the increase in population by rounding off each population to nearest hundreds.

Ans. Rounded off 78787 to nearest hundreds = 78800

Rounded off 95833 to nearest hundreds = 95800

Increase in population = 95800 – 78800 = 17000

33. Estimate the product 758 × 6784 using the general rule.

Ans. We have, 758 × 6784

Rounded off 758 to nearest hundreds = 800

Rounded off 6784 to nearest Thousands = 7000

So, estimated product = 800 × 7000

= 5600000

34. A garment factory produced 216315 shirts, 182736 trousers and 58704 jackets in a year. What is the total production of all the three items in that year?

Ans. Total production of all the three items in that year = Sum of all items

= 216315 + 182736 + 58704 = 457755

✍ SELF ASSESSMENT TEST

Choose the correct answer :

1. The greatest number which on rounding off to nearest thousands gives 5000, is

(A) 5001 (B) 5559 (C) 5999 (D) 5499

2. Keeping the place of 6 in the number 6350947 same, the smallest number obtained by rearranging other digits is

(A) 6975430 (B) 6043579 (C) 6034579 (D) 6034759

3. Which of the following numbers in Roman numerals is incorrect?

(A) LXXX (B) LXX (C) LX (D) LLX

4. The largest 5-digit number having three different digits is

   (A) 98978 (B) 99897 (C) 99987 (D) 98799

5. The smallest 4-digit number having three different digits is

   (A) 1102 (B) 1012 (C) 1020 (D) 1002

Fill in the blanks :

6. (a) 1 metre = _____centimetres

   (b) 1gram = _____milligrams

   (c) 1 litre = _____ millilitres

Answer the Following :

7. Find a three-digit number, which can be formed by using the digits 0, 3, 5 without repeating any digits.

8. Arrange the following in ascending order: 6392, 6782, 6880, 6654

9. Arrange the numbers in descending order: 100101, 100001, 100011, 101001

10. Without repetition, make the greatest and smallest 4-digit number using the digits : 3, 5, 7, 4

11. Write 6923164 in the place-value chart in Indian system. Write its number name and the expanded form.

12. A shopkeeper has 700 kg of flour. He sells 30 kg of flour everyday. Find how much flour is left after the sale of 8 days.

13. Find the difference between greatest and the least number that can be formed using the digits 8, 2, 5, 4 ,3 with each digits coming once.

14. In an election, the successful candidate registered 4,67,350 votes and his nearest rival secured 3,18,800 votes. By what margin did the successful candidate win the election?

15. Round off the following numbers to the nearest thousand. (i) 9540 (ii) 31,284

16. Estimate the sum of 14,468 and 1224 to the nearest thousand.

17. Estimate using the general rule :

   (a) 894 - 248 (b) 12,760 + 3,888

18. Write the following in Roman Numerals.

   (a) 62 (b) 90 (c) 35

19. Write the following in Hindu Arabic (Indian) Numerals. - XXII

20. Express the following as Roman numerals (i) 47 (ii) 59

ANSWERS

1. (d) 5499

2. (c) 6034579

3. (d) Since the symbols V, L and D can never be repeated. LLX is incorrect.

4. (c) 99987

5. (d) 1002

6. (a) 100 (b)1000 (c)1000

7. 350 or 305 or 530 or 503.

8. 6392 < 6654 < 6782 < 6880.

9. 101001 > 100101 > 100011 > 100001.

10. 7543, 3457

11. Place- value chart of 7922164:

Ten lakhs	Lakhs	Ten thousands	Thousands	Hundreds	Tens	Ones
7	9	2	2	1	6	4

12. 460 kg

13. 61,974

14. 1,48,550

15. (i) 10,000. (ii) 31,000.

11. 15,000

17. (a) 700 (b) 17,000

18. (a) LXII (b) XC (c) XXXV

19. 22

20. (i) XLVII (ii) LIX

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