Chapter 8: Grouping and Sharing

CONTENTS 10 exercises · 47 questions

8.1	Let us Do — Wheels (Bicycles and Autorickshaws)	3 Q
8.2	Let us Do — Wings and Legs	3 Q
8.3	Complete the Table	6 Q
8.4	Match the Following	8 Q
8.5	Complete the Tables of 2, 3, 5, and 10	4 Q
8.6	How Many? — Commutativity and Word Problems	9 Q
8.7	Making Multiplication Table — Doubling Patterns	4 Q
8.8	Project Work — Arrays with 24 Objects	1 Q
8.9	Let us Share — Equal Sharing	3 Q
8.10	Let us Make — How Many Groups?	6 Q

Exercise 8.1 — Let us Do — Wheels (Bicycles and Autorickshaws)

Q1 There are 4 bicycles. Each bicycle has 2 wheels. Find the total number of wheels.

SOLUTION

Total wheels = 2 + 2 + 2 + 2 = 8
We are adding 2 for 4 times.
So, 4 times 2 = 4 × 2 = 8
8 wheels

Q2 There are 2 autorickshaws. Each auto has 3 wheels. Find the total number of wheels.

SOLUTION

Total wheels = 3 + 3 = 6
2 times 3 = 2 × 3 = 6
6 wheels

Q3 There are 7 cars. Each car has 4 wheels. Find the total number of wheels.

SOLUTION

Total wheels = 4 + 4 + 4 + 4 + 4 + 4 + 4
7 times 4 = 7 × 4 = 28
28 wheels

Exercise 8.2 — Let us Do — Wings and Legs

Q1 There are 3 butterflies. Each butterfly has 2 wings. Find the total number of wings.

SOLUTION

3 butterflies shown, each has 2 wings. Total wings = 2 + 2 + 2 = 6. 3 twos are 6. 3 × 2 = 6. Answer: 6 wings

Q2 There are 2 octopuses. Each octopus has 8 legs. Find the total number of legs.

SOLUTION

2 octopuses shown, each has 8 legs. Total legs = 8 + 8 = 16. 2 eights are 16. 2 × 8 = 16. Answer: 16 legs

Q3 There are 4 lines of soldiers. Each line has 10 soldiers. Find the total number of soldiers.

SOLUTION

4 lines of soldiers shown, each line has 10 soldiers. Total = 10 + 10 + 10 + 10 = 40. 4 tens are 40. 4 × 10 = 40. Answer: 40 soldiers

Exercise 8.3 — Complete the Table

Q1 Complete: Stars — 4 × 3 = 12. Write the repeated addition and 'times' form: 3 + 3 + 3 + 3 = ___; 4 times 3 = ___.

SOLUTION

3 + 3 + 3 + 3 = 12
4 times 3 = 12
4 × 3 = 12
12

Q2 Complete: Stars — 5 + 5 + 5 = ___; ___ times 5 = ___; ___ × 5 = ___.

SOLUTION

5 + 5 + 5 = 15
3 times 5 = 15
3 × 5 = 15
15

Q3 Complete: Fingers — 6 times 3 = ___; write as repeated addition and multiplication.

SOLUTION

3 + 3 + 3 + 3 + 3 + 3 = 18
6 times 3 = 18
6 × 3 = 18
18

Q4 Complete: Oranges — 4 × 4 = ___; write repeated addition.

SOLUTION

4 + 4 + 4 + 4 = 16
4 × 4 = 16
16

Q5 Complete: Pencils — 2 × 5 = ___; write repeated addition.

SOLUTION

5 + 5 = 10
2 × 5 = 10
10

Q6 Complete: Balls — 3 × 5 = ___; write repeated addition.

SOLUTION

5 + 5 + 5 = 15

3 × 5 = 15

15

Exercise 8.4 — Match the Following

Q1 Match: 7 fives are = ?

SOLUTION

7 × 5 = 35

35

Q2 Match: 4 groups of 10 = ?

SOLUTION

4 × 10 = 40

40

Q3 Match: 3 + 3 + 3 + 3 + 3 = ?

SOLUTION

5 times 3 = 15

3 + 3 + 3 + 3 + 3 = 15

15

Q4 Match: 3 × 9 = ?

SOLUTION

9 + 9 + 9 = 27

3 × 9 = 27

27

Q5 Match: 10 + 10 + 10 + 10 = ?

SOLUTION

4 groups of 10 = 40

10 + 10 + 10 + 10 = 40

40

Q6 Match: 3 × 8 = ?

SOLUTION

8 + 8 + 8 = 24

3 × 8 = 24

24

Q7 Match: 2 sevens are = ?

SOLUTION

7 + 7 = 14

2 × 7 = 14

14

Q8 Match: 5 + 5 + 5 + 5 + 5 + 5 + 5 = ?

SOLUTION

7 fives = 35

5 + 5 + 5 + 5 + 5 + 5 + 5 = 35

35

Exercise 8.5 — Complete the Tables of 2, 3, 5, and 10

Q1 Complete the table of 2: 2 ones are ___, 2 twos are ___, 2 threes are ___.

SOLUTION

2 ones are 2 → 2 × 1 = 2
2 twos are 4 → 2 × 2 = 4
2 threes are 6 → 2 × 3 = 6
2, 4, 6

Q2 Complete the table of 3: 3 ones are ___, 3 twos are ___, 3 threes are ___.

SOLUTION

3 ones are 3 → 3 × 1 = 3
3 twos are 6 → 3 × 2 = 6
3 threes are 9 → 3 × 3 = 9
3, 6, 9

Q3 Complete the table of 5: 5 ones are ___, 5 twos are ___, 5 threes are ___.

SOLUTION

5 ones are 5 → 5 × 1 = 5
5 twos are 10 → 5 × 2 = 10
5 threes are 15 → 5 × 3 = 15
5, 10, 15

Q4 Complete the table of 10: 10 ones are ___, 10 twos are ___, 10 threes are ___.

SOLUTION

10 ones are 10 → 10 × 1 = 10
10 twos are 20 → 10 × 2 = 20
10 threes are 30 → 10 × 3 = 30
10, 20, 30

Exercise 8.6 — How Many? — Commutativity and Word Problems

Q1 Ram made 4 bouquets with 3 flowers each. Gopal made 3 bouquets with 4 flowers each. How many flowers did each use? What do you notice?

SOLUTION

Ram: 4 groups of 3 = 4 × 3 = 12 flowers
Gopal: 3 groups of 4 = 3 × 4 = 12 flowers
Both used 12 flowers — the answer is the same even when we swap the numbers!
Both used 12 flowers; 4 × 3 = 3 × 4

Q2 4 groups of 5 gulab jamuns: ___ times 5 is ___; 4 × 5 = ___.

SOLUTION

Left array shows 4 rows of 5 gulab jamuns. 4 times 5 is 20. 4 × 5 = 20. There are 20 gulab jamuns.

Q3 5 groups of 4 gulab jamuns: ___ times 4 is ___; 5 × 4 = ___.

SOLUTION

Right array shows 5 rows of 4 gulab jamuns. 5 times 4 is 20. 5 × 4 = 20. There are 20 gulab jamuns.

Q4 6 groups of 4 flowers: ___ times 4 is ___; 6 × 4 = ___.

SOLUTION

Left fabric shows 6 rows of 4 flowers. 6 times 4 is 24. 6 × 4 = 24. There are 24 flowers.

Q5 4 groups of 6 flowers: ___ times 6 is ___; 4 × 6 = ___.

SOLUTION

Right fabric shows 4 rows of 6 flowers. 4 times 6 is 24. 4 × 6 = 24. There are 24 flowers.

Q6 There are 8 packets of bindis. Each packet has 5 bindis. How many bindis are there in all?

SOLUTION

Number of packets = 8
Bindis in each packet = 5
Total bindis = 8 groups of 5 = 8 × 5 = 40
40 bindis

Q7 Bharti puts 4 buttons on each shirt. She wants to put buttons on 7 shirts. How many buttons does she need?

SOLUTION

Number of shirts = 7
Buttons on each shirt = 4
Total buttons = 7 groups of 4 = 7 × 4 = 28
28 buttons

Q8 Rita bought 6 pencils at 4 each. How much money will she give to the shopkeeper?

SOLUTION

Number of pencils = 6
Cost of 1 pencil = 4
Cost of 6 pencils = 4 + 4 + 4 + 4 + 4 + 4 = 6 × 4 = 24
24

Q9 Five people can sit in a car. How many people can sit in 8 such cars?

SOLUTION

Number of people in 1 car = 5
Number of people in 8 cars = 8 × 5 = 40
40 people can sit in 8 cars

Exercise 8.7 — Making Multiplication Table — Doubling Patterns

Q1 Rudra makes the table of 4 by adding the table of 2 to itself. Use this idea: table of 2 is 2, 4, 6, 8, 10, 12, 14, 16, 18, 20. What is the table of 4?

SOLUTION

Add each number in the table of 2 to itself (double it):
2+2=4, 4+4=8, 6+6=12, 8+8=16, 10+10=20, 12+12=24, 14+14=28, 16+16=32, 18+18=36, 20+20=40
Table of 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40
4, 8, 12, 16, 20, 24, 28, 32, 36, 40

Q2 Make the table of 6 from the table of 3. (Table of 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.)

SOLUTION

Double each number in the table of 3:
3+3=6, 6+6=12, 9+9=18, 12+12=24, 15+15=30, 18+18=36, 21+21=42, 24+24=48, 27+27=54, 30+30=60
Table of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60
6, 12, 18, 24, 30, 36, 42, 48, 54, 60

Q3 Make the table of 7 from the tables of 3 and 4. (Table of 3: 3,6,9,12,... Table of 4: 4,8,12,16,...)

SOLUTION

Add corresponding entries of table of 3 and table of 4:
3+4=7, 6+8=14, 9+12=21, 12+16=28, 15+20=35, 18+24=42, 21+28=49, 24+32=56, 27+36=63, 30+40=70
Table of 7: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70
7, 14, 21, 28, 35, 42, 49, 56, 63, 70

Q4 Make the table of 8 from the tables of 2 and 6.

SOLUTION

Add corresponding entries of table of 2 and table of 6:
2+6=8, 4+12=16, 6+18=24, 8+24=32, 10+30=40, 12+36=48, 14+42=56, 16+48=64, 18+54=72, 20+60=80
Table of 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80
8, 16, 24, 32, 40, 48, 56, 64, 72, 80

Exercise 8.8 — Project Work — Arrays with 24 Objects

Q1 Collect 24 small objects. Arrange them in different equal groups (arrays) and write the multiplication facts. How many facts can you find? (Example: 3 groups of 4 → 3 × 4 = 24.)

SOLUTION

Arrange 24 objects in different ways and write what you find:
1 group of 24 → 1 × 24 = 24
2 groups of 12 → 2 × 12 = 24
3 groups of 8 → 3 × 8 = 24
4 groups of 6 → 4 × 6 = 24
6 groups of 4 → 6 × 4 = 24
8 groups of 3 → 8 × 3 = 24
Try other arrangements too — each equal grouping gives a multiplication fact!
Possible facts include 1×24, 2×12, 3×8, 4×6, 6×4, 8×3

Exercise 8.9 — Let us Share — Equal Sharing

Q1 In the story, two children share gulab jamuns equally — 1 for you, 1 for me; then 2 each; then 3 each; then 4 each. (A) How many gulab jamuns were there in total? (B) Have they shared equally? (C) How many did each child get?

SOLUTION

Total = 4 for one child + 4 for the other = 4 + 4 = 8
Yes, they shared equally.
Each child got 4 gulab jamuns.
8 total; Yes, equally shared; 4 each

Q2 Draw 12 bindis equally on 2 ice cream cones (as cherries). How many bindis will be on each cone?

SOLUTION

The bindi card shows 12 bindis in a 4 × 3 array. Share 12 bindis equally on 2 ice cream cones: 12 ÷ 2 = 6. Draw 6 bindis on each cone as cherries.

Q3 Pooja has 2 plates with different numbers of laddoos. Help her divide ALL the laddoos equally into 3 plates by drawing.

SOLUTION

Plate 1 has 6 laddoos and Plate 2 has 3 laddoos. Total = 6 + 3 = 9. Share equally into 3 plates: 9 ÷ 3 = 3. Draw 3 laddoos on each of the 3 empty plates.

Exercise 8.10 — Let us Make — How Many Groups?

Q1 Each string has 7 beads. How many strings can we make with 21 beads?

SOLUTION

We need to find how many groups of 7 are in 21.
7 + 7 + 7 = 21, so 3 groups
21 ÷ 7 = 3
3 strings

Q2 There are 54 flowers. Join 9 flowers to make 1 bracelet. How many bracelets can we make with 54 flowers?

SOLUTION

We need to find how many groups of 9 are in 54.
9+9+9+9+9+9 = 54, so 6 groups
54 ÷ 9 = 6
6 bracelets

Q3 There are 25 roses. 5 roses can be placed in 1 vase. How many vases are needed for 25 roses?

SOLUTION

5+5+5+5+5 = 25, so 5 groups of 5
25 ÷ 5 = 5
5 vases are needed

Q4 There are 27 candles. Put them equally in 3 boxes. How many candles will be in each box?

SOLUTION

Share 27 candles equally among 3 boxes.
9 + 9 + 9 = 27
27 ÷ 3 = 9
9 candles in each box

Q5 A tailor puts 6 buttons on one shirt. There are 30 buttons. How many shirts can the tailor sew?

SOLUTION

Find how many groups of 6 are in 30.
6+6+6+6+6 = 30, so 5 groups
30 ÷ 6 = 5

5 shirts

Q6 Share 24 bananas equally among 3 monkeys. How many bananas does each monkey get?

SOLUTION

Share 24 equally among 3.

8 + 8 + 8 = 24

24 ÷ 3 = 8

8 bananas each