

## Division Word Problems

Two kinds of division stories: *sharing* (we know the number of groups, find the size) and *grouping* (we know the size of each group, find how many groups). Same math, just told differently.

Story type	Example
Sharing equally	“24 apples shared among 4 baskets” — find size of each group
Making groups	“24 apples, 6 per basket” — find number of groups

### Key Concepts

- Sharing** (also called partitive division): you know how many groups to make. Divide the total by the number of groups to find the size of each.
- Grouping** (also called measurement division): you know the size of each group. Divide the total by the group size to find how many groups.
- Both story types use the same division operation. Don't worry about which is which — worry about the total ( $\div$ ) the number you know.
- Always estimate or use multiplication to check. If  $30 \div 5 = 6$ , then  $6 \times 5$  should equal 30.

### Worked Examples

① 30 apples are shared equally among 5 baskets. How many apples per basket?

 Sharing story: we know 5 baskets, want size of each. Total  $\div$  number of groups:  $30 \div 5 = 6$ . Each basket gets 6 apples. Check:  $6 \times 5 = 30$  ✓.

 **Answer:** 6 apples per basket

② A teacher has 24 pencils and gives 4 to each student. How many students get pencils?

 Grouping story: we know each group is 4, want how many groups. Total  $\div$  group size:  $24 \div 4 = 6$ . Six students get pencils. Check:  $6 \times 4 = 24$  ✓.

 **Answer:** 6 students

③ There are 54 chairs arranged in rows of 9. How many rows?

 Grouping story: each row holds 9 chairs.  $54 \div 9 = 6$  rows. Check:  $6 \times 9 = 54$  ✓.

 **Answer:** 6 rows

### Practice Problems

Write a division equation and solve.

- 18 stickers, 3 friends: each gets ? \_\_\_\_\_
- 32 books on 8 shelves: each has ? \_\_\_\_\_
- 40 grapes, 5 per bowl: ? bowls \_\_\_\_\_
- 27 crayons, 9 per box: ? boxes \_\_\_\_\_
- 56 marbles, 7 bags: each has ? \_\_\_\_\_
- 48 flowers, 6 per vase: ? vases \_\_\_\_\_
- 36 cards, 4 per pack: ? packs \_\_\_\_\_
- 45 muffins, 9 on each tray: ? trays \_\_\_\_\_




9. 21 toys, 3 per shelf: ? shelves \_\_\_\_\_

11. 42 eggs, 6 per carton: ? cartons \_\_\_\_\_

10. 64 berries, 8 per cup: ? cups \_\_\_\_\_

12. 72 seeds, 8 rows: each has ? \_\_\_\_\_

### Study Tips

-  Underline the total in the problem. The total is almost always the *dividend* (the number you divide).
-  “Each” is a powerful word: “*each* basket,” “*each* student.” It tells you exactly which number is the group size.
-  Always do the multiplication check. If  $48 \div 6 = 8$ , verify with  $8 \times 6 = 48$ .

### Word Problems

1. Mrs. Lee made 48 cookies for a bake sale. She put an equal number of cookies into 6 boxes. How many cookies were in each box?

Answer: \_\_\_\_\_

2. A gardener planted 63 flowers in rows of 7. How many rows did the gardener plant? Show how you can check your answer.

Answer: \_\_\_\_\_

**Answer Key — with Friendly Explanations****Practice Problems**

1. Sharing:  $18 \div 3 = 6$ .

 **Answer:** 6 stickers each

2. Sharing:  $32 \div 8 = 4$ .

 **Answer:** 4 books per shelf

3. Grouping:  $40 \div 5 = 8$ .

 **Answer:** 8 bowls

4. Grouping:  $27 \div 9 = 3$ .

 **Answer:** 3 boxes

5. Sharing:  $56 \div 7 = 8$ .

 **Answer:** 8 marbles each

6. Grouping:  $48 \div 6 = 8$ .

 **Answer:** 8 vases

7. Grouping:  $36 \div 4 = 9$ .

 **Answer:** 9 packs

8. Grouping:  $45 \div 9 = 5$ .

 **Answer:** 5 trays

9. Grouping:  $21 \div 3 = 7$ .

 **Answer:** 7 shelves

10. Grouping:  $64 \div 8 = 8$ .

 **Answer:** 8 cups

11. Grouping:  $42 \div 6 = 7$ .

 **Answer:** 7 cartons

12. Sharing:  $72 \div 8 = 9$ .

 **Answer:** 9 seeds each**Word Problems**

1.  $48 \div 6 = 8$ . Eight cookies per box.

 **Answer:** 8 cookies

2.  $63 \div 7 = 9$ , check  $9 \times 7 = 63$ .

 **Answer:** 9 rows

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