DIVISION

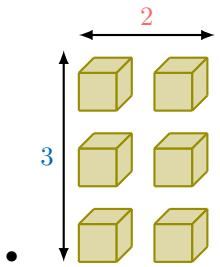
A WHAT IS DIVISION?

A.1 CALCULATING DIVISIONS

Ex 1:

$$6 \div 2 = \boxed{3}$$

Answer:

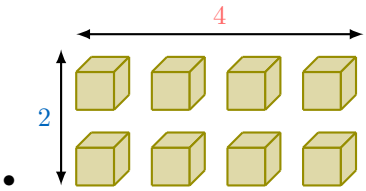


- $6 \div 2 = 3$

Ex 2:

$$8 \div 4 = \boxed{2}$$

Answer:

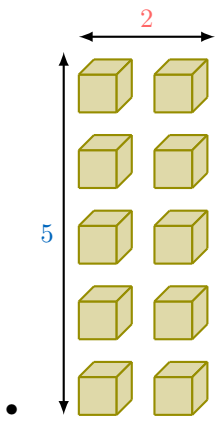


- $8 \div 4 = 2$

Ex 3:

$$10 \div 2 = \boxed{5}$$

Answer:

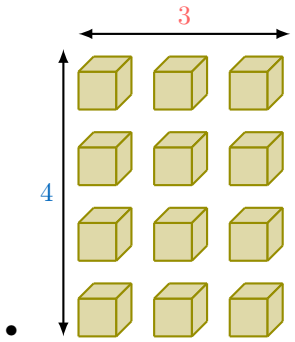


- $10 \div 2 = 5$

Ex 4:

$$12 \div 3 = \boxed{4}$$

Answer:

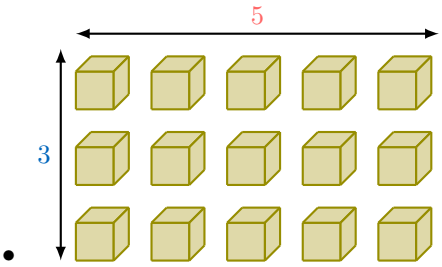


- $12 \div 3 = 4$

Ex 5:

$$15 \div 5 = \boxed{3}$$

Answer:



- $15 \div 5 = 3$

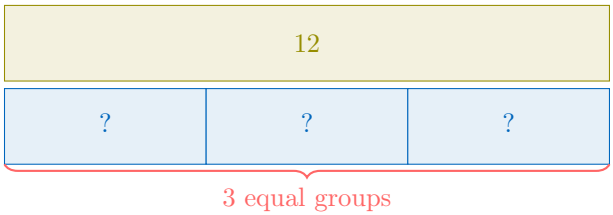
B TWO KINDS OF DIVISION QUESTIONS

B.1 FINDING THE NUMBER OF ITEMS

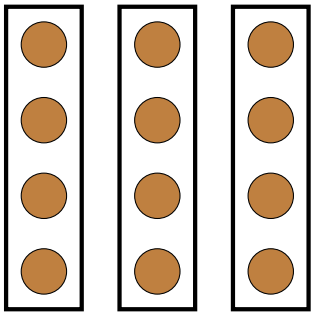
Ex 6: Mei has 12 cookies. She wants to distribute them equally into 3 boxes.
How many cookies will she put in each box?

$\boxed{4}$ cookies in each box.

Answer:



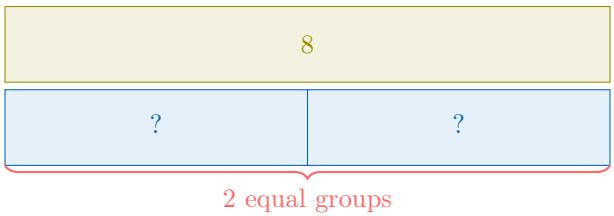
- $3 \times 4 = 4 + 4 + 4$
  $= 12$
- So $12 \div 3 = 4$
- Mei needs to put 4 cookies in each box.

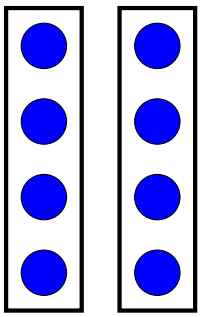
- 

Ex 7: Hugo and Louis share a present of 8 marbles equally.
How many marbles will each of them get?

$\boxed{4}$ marbles each.

Answer:

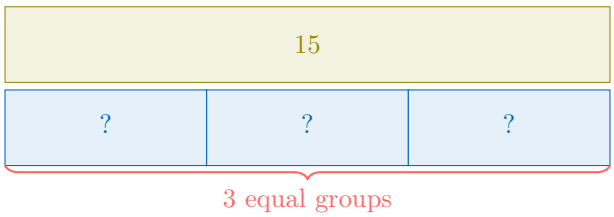
- 

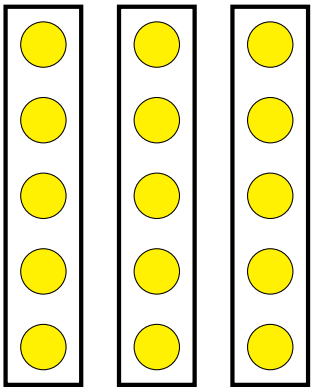
- $2 \times 4 = 4 + 4$
  $= 8$
- So $8 \div 2 = 4$
- Hugo and Louis each get 4 marbles.
- 

Ex 8: Three pirates find a treasure of 15 gold coins. They want to share the coins equally.
How many coins will each pirate get?

$\boxed{5}$ coins each.

Answer:

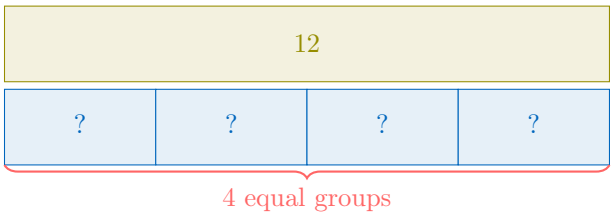
- 

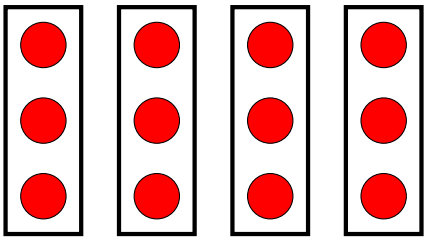
- $3 \times 5 = 5 + 5 + 5$
  $= 15$
- So $15 \div 3 = 5$
- Each pirate will get 5 coins.
- 

Ex 9: Four friends find a bag with 12 candies. They decide to share the candies equally.
How many candies will each friend get?

$\boxed{3}$ candies each.

Answer:

- 

- $4 \times 3 = 3 + 3 + 3 + 3$
  $= 12$
- So $12 \div 4 = 3$
- Each friend will get 3 candies.
- 

B.2 FINDING THE NUMBER OF GROUPS

Ex 10: Louis has 6 lemons.

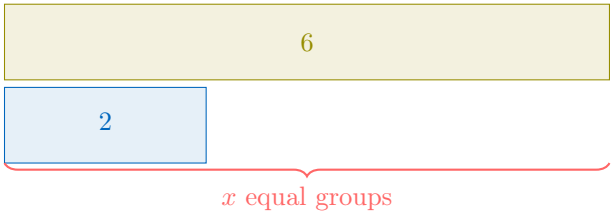
He wants to put them into baskets such that each basket contains 2 lemons.
How many baskets to pack all the lemons?

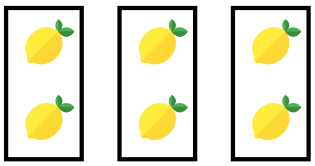
$\boxed{3}$ baskets

Answer:

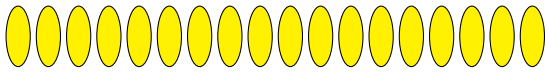
- We can think of division as:

  total $\div$ number of items in each group $=$ number of groups

- 

- Louis needs $6 \div 2$ baskets to pack all the lemons.
- $3 \times 2 = 2 + 2 + 2$
  $= 6$
- So $6 \div 2 = 3$.
- Louis needs 3 baskets to pack all the lemons.
- 

Ex 11: Hugo has 18 eggs.



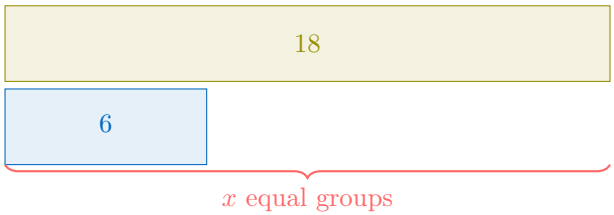
He wants to put them into boxes such that each box contains 6 eggs.
How many boxes to pack all the eggs?

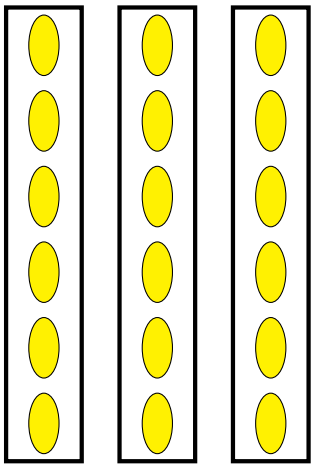
$\boxed{3}$ boxes

Answer:

- We can think of division as:

  total $\div$ number of items in each group = number of groups

- 

- Hugo needs $18 \div 6$ boxes to pack all the eggs.
- $3 \times 6 = 6 + 6 + 6$
  $= 18$
- So $18 \div 6 = 3$.
- Hugo needs 3 boxes to pack all the eggs.
- 

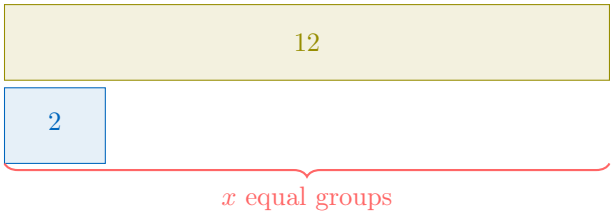
Ex 12: There are 12 eyes in total. Each person has 2 eyes.
How many people are there?

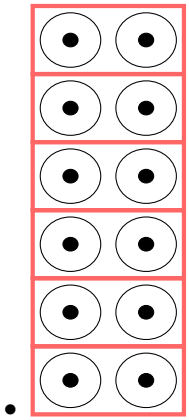
$\boxed{6}$ people

Answer:

- We can think of division as:

  total eyes $\div$ eyes per person = number of people

- 

- There are $12 \div 2 = 6$ people.
- $6 \times 2 = 2 + 2 + 2 + 2 + 2 + 2$
  $= 12$
- So, $12 \div 2 = 6$.
- There are 6 people in total.
- 

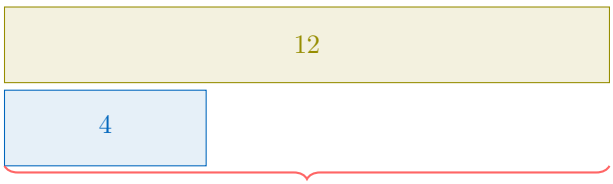
Ex 13: A class has 12 students. The teacher wants to divide the students into groups with 4 students in each group.
How many groups of students can be made?

$\boxed{3}$ groups

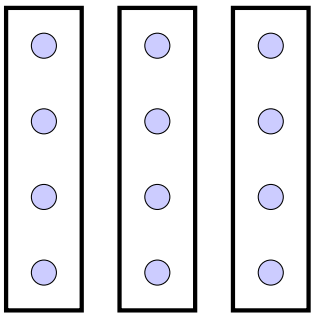
Answer:

- We can think of division as:

  total students $\div$ students per group = number of groups

- 

- The teacher needs $12 \div 4$ groups to arrange all the students.
- $3 \times 4 = 4 + 4 + 4$
  $= 12$
- So $12 \div 4 = 3$.

- The teacher can make 3 groups of students.
- 

B.3 FINDING THE RIGHT OPERATION

MCQ 14: Which problem can we solve with $36 \div 6$?
Choose 1 answer:

☐ There are 36 marbles in the bag. Hugo added 6 more marbles to the bag. How many marbles are there in total?

☐ Mei has 36 stickers. She gave 6 stickers to her friends. How many stickers does she have left?

☐ Louis needs 6 apples to make a pie. If Jake wants to make 36 pies, how many apples does he need?

☒ In a class, there are 36 pencils. The teacher shares the pencils among 6 kids. How many pencils does each kid get?

Answer:

- **Hugo**
  Adding marbles:
  $$36 + 6$$
- **Mei**
  Taking away stickers:
  $$36 - 6$$
- **Louis**
  Multiplying apples needed for pies:
  $$36 \times 6$$
- **Class**
  Sharing pencils:
  $$36 \div 6$$
- The division $36 \div 6$ can solve this problem: In a class, there are 36 pencils. The teacher shares the pencils among 6 kids. How many pencils does each kid get?

MCQ 15: Which problem can we solve with $45 \div 5$?
Choose 1 answer:

☐ There are 45 chocolates in the box. Maya added 5 more chocolates to the box. How many chocolates are there in total?

☒ Olivia has 5 baskets. If she puts 45 oranges evenly in the baskets, how many oranges are in each basket?

☐ Max has 45 trading cards. He traded 5 cards with his friend. How many cards does he have left?

☐ Louis needs 5 tomatoes to make a pasta sauce. If Louis wants to cook 45 sauces, how many tomatoes does he need?

Answer:

- **Maya**
  Adding chocolates:
  $$45 + 5$$
- **Olivia**
  Splitting oranges into baskets:
  $$45 \div 5$$
- **Max**
  Taking away trading cards:
  $$45 - 5$$
- **Louis**
  Multiplying tomatoes needed for sauces:
  $$45 \times 5$$
- The division $45 \div 5$ can solve this problem: Olivia has 5 baskets. If she puts 45 oranges evenly in the baskets, how many oranges are in each basket?

MCQ 16: Which problem can we solve with $10 \div 2$?
Choose 2 answers:

☐ Aisha has 10 candies. She eats 2 of them. How many candies does she have left?

☒ Sam has 10 apples. He gives 2 apples to each friend. How many friends does he give apples to?

☒ There are 10 chairs. The teacher places 2 chairs in each row. How many rows of chairs are there?

☐ Nina has 2 boxes. She puts 10 pencils in each box. How many pencils does she have in total?

Answer:

- **Aisha**
  Taking away candies:
  $$10 - 2$$
- **Sam**
  Dividing apples between friends:
  $$10 \div 2$$
- **Chairs**
  Placing chairs into rows:
  $$10 \div 2$$
- **Nina**
  Multiplying pencils in boxes:
  $$10 \times 2$$

MCQ 17: Which problem can we solve with $60 \div 10$?
Choose 1 answer:

☐ Alice has 60 beads. She used 10 beads to make a bracelet. How many beads does she have left?

☒ Maria has 10 jars. If she puts 60 candies evenly in the jars, how many candies are in each jar?

☐ Hugo needs 10 nails to build a birdhouse. If Hugo wants to build 60 birdhouses, how many nails does he need?

☐ There are 60 birds in the park. Jerry counted 10 more birds. How many birds are there in total?

Answer:

- **Alice**
  Taking away beads:
  $$60 - 10$$
- **Maria**
  Splitting candies into jars:
  $$60 \div 10$$
- **Hugo**
  Multiplying nails needed for birdhouses:
  $$60 \times 10$$
- **Jerry**
  Adding birds:
  $$60 + 10$$
- The division $60 \div 10$ can solve this problem: Maria has 10 jars. If she puts 60 candies evenly in the jars, how many candies are in each jar?

C THE MULTIPLICATION AND DIVISION CONNECTION

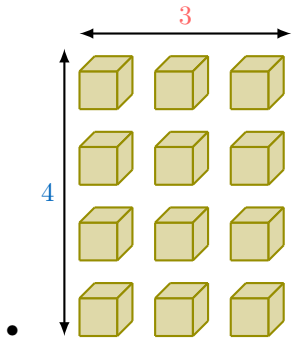
C.1 CALCULATING DIVISIONS

Ex 18:

$$12 \div 3 = \boxed{4}$$

Answer:

- How many times does 3 fit into 12?
- $$3 \times 0 = 0$$
  $$3 \times 1 = 3$$
  $$3 \times 2 = 6$$
  $$3 \times 3 = 9$$
  $$3 \times 4 = 12$$
  $$3 \times 5 = 15$$
  $$3 \times 6 = 18$$
  $$3 \times 7 = 21$$
  $$3 \times 8 = 24$$
  $$3 \times 9 = 27$$
  $$3 \times 10 = 30$$
- As $3 \times 4 = 12$, $12 \div 3 = 4$

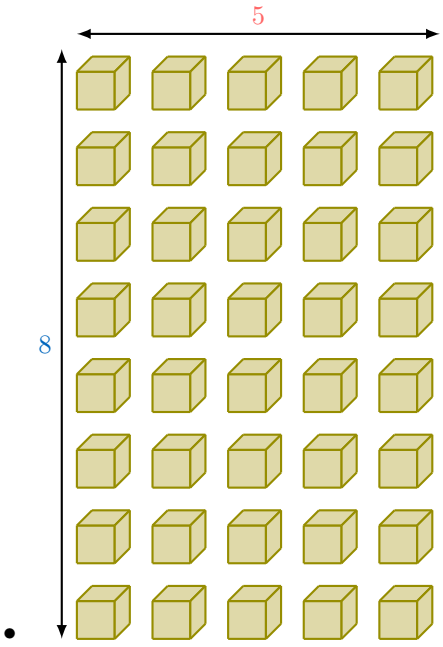


Ex 19:

$$40 \div 5 = \boxed{8}$$

Answer:

- How many times does 5 fit into 40?
- $$5 \times 0 = 0$$
  $$5 \times 1 = 5$$
  $$5 \times 2 = 10$$
  $$5 \times 3 = 15$$
  $$5 \times 4 = 20$$
  $$5 \times 5 = 25$$
  $$5 \times 6 = 30$$
  $$5 \times 7 = 35$$
  $$5 \times 8 = 40$$
  $$5 \times 9 = 45$$
  $$5 \times 10 = 50$$
- As $5 \times 8 = 40$, $40 \div 5 = 8$



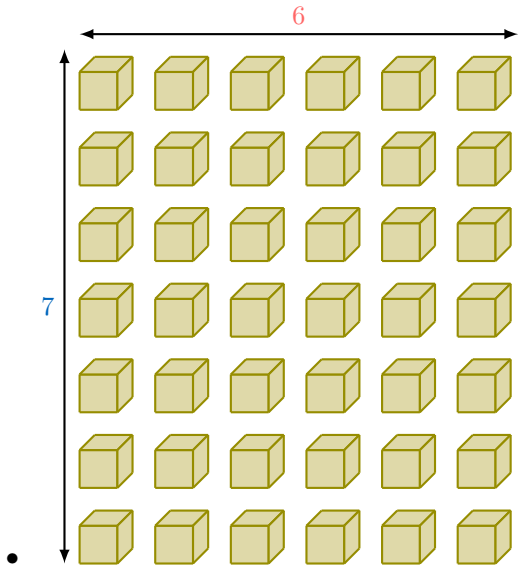
Ex 20:

$$42 \div 6 = \boxed{7}$$

Answer:

- How many times does 6 fit into 42?

- $6 \times 0 = 0$
  $6 \times 1 = 6$
  $6 \times 2 = 12$
  $6 \times 3 = 18$
  $6 \times 4 = 24$
  $6 \times 5 = 30$
  $6 \times 6 = 36$
  $6 \times 7 = 42$
  $6 \times 8 = 48$
  $6 \times 9 = 54$
  $6 \times 10 = 60$
- As $6 \times 7 = 42$, $42 \div 6 = 7$

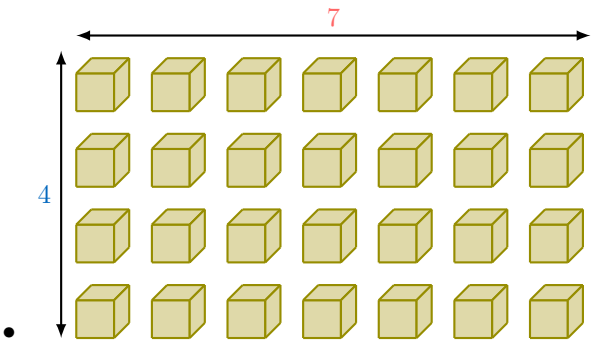


Ex 21:

$$28 \div 7 = \boxed{4}$$

Answer:

- How many times does 7 fit into 28?
- $7 \times 0 = 0$
  $7 \times 1 = 7$
  $7 \times 2 = 14$
  $7 \times 3 = 21$
  $7 \times 4 = 28$
  $7 \times 5 = 35$
  $7 \times 6 = 42$
  $7 \times 7 = 49$
  $7 \times 8 = 56$
  $7 \times 9 = 63$
  $7 \times 10 = 70$
- As $7 \times 4 = 28$, $28 \div 7 = 4$

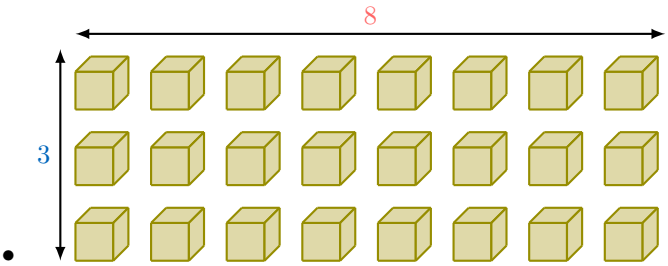


Ex 22:

$$24 \div 8 = \boxed{3}$$

Answer:

- How many times does 8 fit into 24?
- $8 \times 0 = 0$
  $8 \times 1 = 8$
  $8 \times 2 = 16$
  $8 \times 3 = 24$
  $8 \times 4 = 32$
  $8 \times 5 = 40$
  $8 \times 6 = 48$
  $8 \times 7 = 56$
  $8 \times 8 = 64$
  $8 \times 9 = 72$
  $8 \times 10 = 80$
- As $8 \times 3 = 24$, $24 \div 8 = 3$



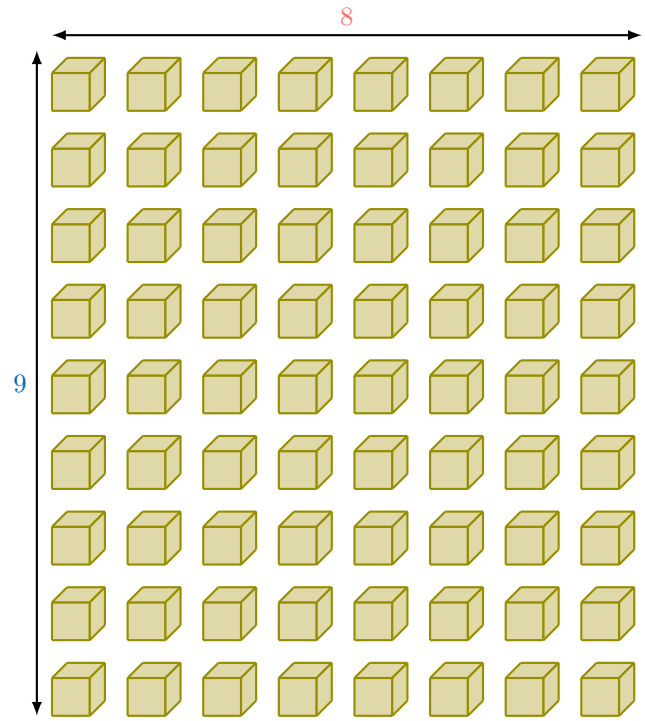
Ex 23:

$$72 \div 8 = \boxed{9}$$

Answer:

- How many times does 8 fit into 72?
- $8 \times 0 = 0$
  $8 \times 1 = 8$
  $8 \times 2 = 16$
  $8 \times 3 = 24$
  $8 \times 4 = 32$
  $8 \times 5 = 40$
  $8 \times 6 = 48$
  $8 \times 7 = 56$
  $8 \times 8 = 64$
  $8 \times 9 = 72$
  $8 \times 10 = 80$

- As $8 \times 9 = 72$, $72 \div 8 = 9$



C.2 CALCULATING DIVISIONS

Ex 24:

$$22 \div 11 = \boxed{2}$$

Answer:

- How many times does 11 fit into 22?
- Write the multiplication table of 11 up to 22:

$$11 \times 1 = 11$$
$$11 \times 2 = 22$$

- As $11 \times 2 = 22$, $22 \div 11 = 2$

Ex 25:

$$60 \div 20 = \boxed{3}$$

Answer:

- How many times does 20 fit into 60?
- Write the multiplication table of 20 up to 60:

$$20 \times 1 = 20$$
$$20 \times 2 = 40$$
$$20 \times 3 = 60$$

- As $20 \times 3 = 60$, $60 \div 20 = 3$

Ex 26:

$$200 \div 100 = \boxed{2}$$

Answer:

- How many times does 100 fit into 200?
- Write the multiplication table of 100 up to 200:

$$100 \times 1 = 100$$
$$100 \times 2 = 200$$

- As $100 \times 2 = 200$, $200 \div 100 = 2$

Ex 27:

$$70 \div 35 = \boxed{2}$$

Answer:

- How many times does 35 fit into 70?
- Write the multiplication table of 35 up to 70:

$$35 \times 1 = 35$$
$$35 \times 2 = 70$$

- As $35 \times 2 = 70$, $70 \div 35 = 2$

Ex 28:

$$48 \div 12 = \boxed{4}$$

Answer:

- How many times does 12 fit into 48?
- Write the multiplication table of 12 up to 48:

$$12 \times 1 = 12$$
$$12 \times 2 = 24$$
$$12 \times 3 = 36$$
$$12 \times 4 = 48$$

- As $12 \times 4 = 48$, $48 \div 12 = 4$