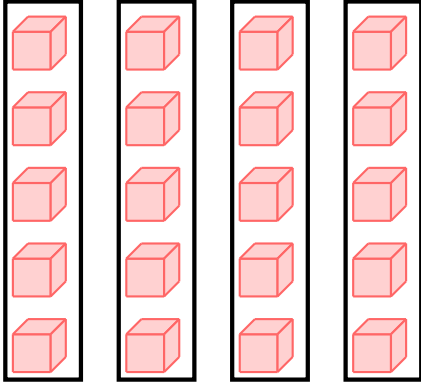# DIVISION

A DEFINITIONS

A.1 DIVIDING OBJECTS EQUALLY INTO GROUPS

MCQ 1: There are 20 blocks shared evenly among 4 boxes.
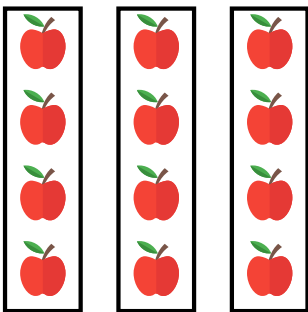
Which expression will show us how many blocks are in each box?

☒ $20 \div 4$

☐ $4 \div 20$

☐ $20 + 4$

☐ $20 \div 5$

Answer:

- We can think of division like this:

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

- So, $20 \div 4 = 5$, meaning there are 5 blocks in each box.

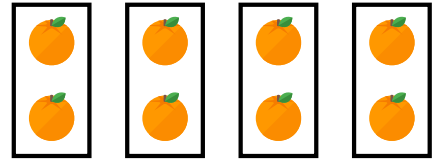**MCQ 2:** There are 12 apples shared evenly among 3 boxes.

Which expression will show us how many apples are in each box?

☐ $3 \div 12$

☐ $12 + 3$

☒ $12 \div 3$

Answer:

- We can think of division like this:

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

- So, $12 \div 3 = 4$, meaning there are 4 apples in each box.

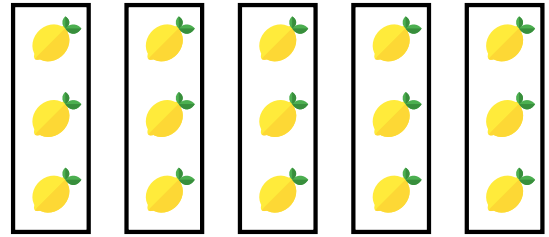**MCQ 3:** There are 8 oranges shared evenly among 4 boxes.

Which expression will show us how many oranges are in each box?

☐ $4 \div 8$

☐ $8 + 4$

☒ $8 \div 4$

Answer:

- We can think of division like this:

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

- So, $8 \div 4 = 2$, meaning there are 2 oranges in each box.

MCQ 4: There are 15 lemons shared evenly among 5 boxes.

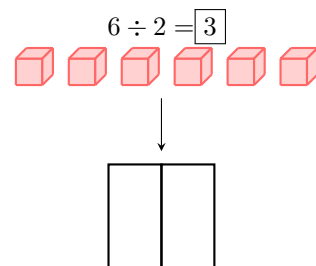Which expression will show us how many lemons are in each box?

☐ $5 \div 15$

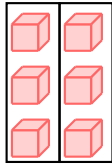☐ $15 + 5$

☒ $15 \div 5$

Answer:

- We can think of division like this:

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

- So, $15 \div 5 = 3$, meaning there are 3 lemons in each box.
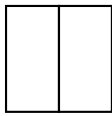
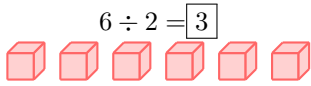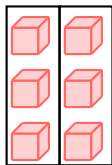### A.2 CALCULATING DIVISIONS

Ex 5:

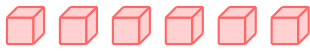$6 \div 2 = \boxed{3}$

Answer:

- There are 3 blocks in each group.

- $6 \div 2 = 3$

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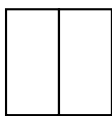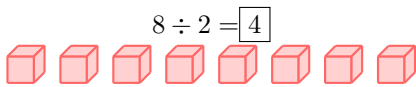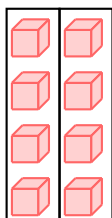
$$6 \div 2 = \boxed{3}$$

Answer:

- There are 3 blocks in each group.
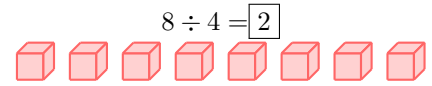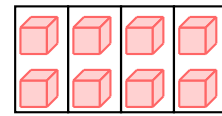
- $6 \div 2 = 3$

Ex 7:

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

Answer:

- There are 4 blocks in each group.

- $8 \div 2 = 4$

Ex 8:

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

Answer:

- There are 2 blocks in each group.

- $8 \div 4 = 2$

Ex 9:

$$9 \div 3 = \boxed{3}$$
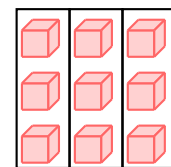
Answer:

- There are 3 blocks in each group.

- $9 \div 3 = 3$

Ex 10:

$$5 \div 5 = \boxed{1}$$
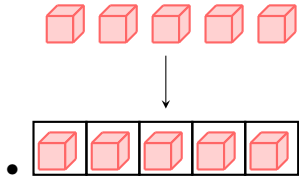
Answer:

- There is 1 block in each group.

- $5 \div 5 = 1$

Ex 11:
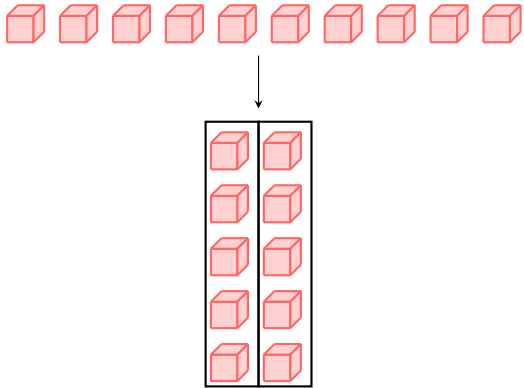
$10 \div 2 = \boxed{5}$

Answer:

- There are 5 blocks in each group.

- $10 \div 2 = 5$

Ex 12:
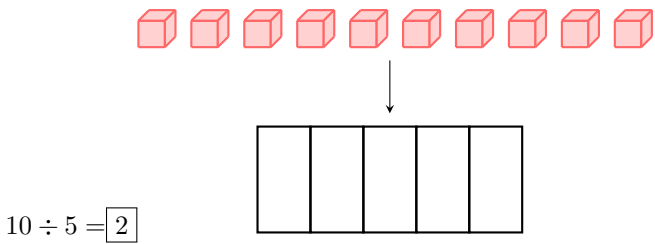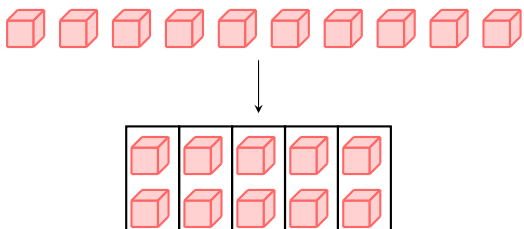
$10 \div 5 = \boxed{2}$

Answer:

- There are 2 blocks in each group.

- $10 \div 5 = 2$

Ex 13:
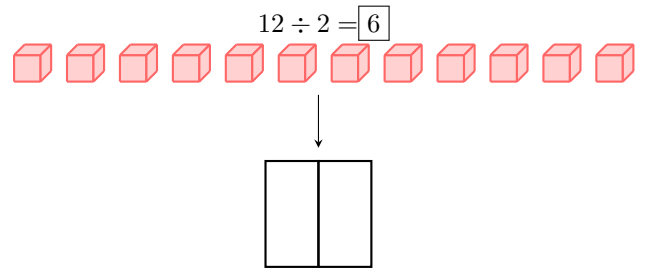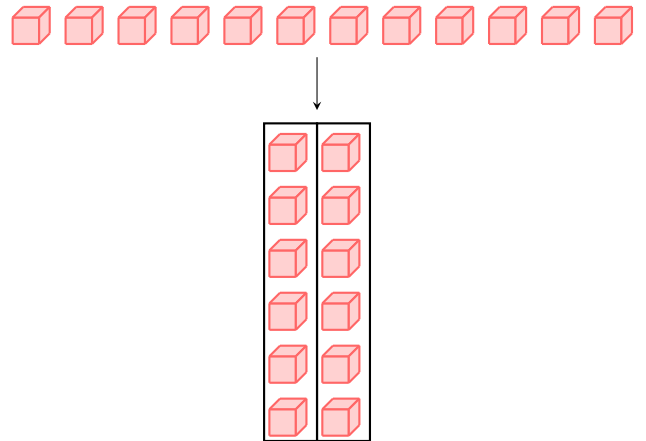
$12 \div 2 = \boxed{6}$

Answer:

- There are 6 blocks in each group.

- $12 \div 2 = 6$

Ex 14:
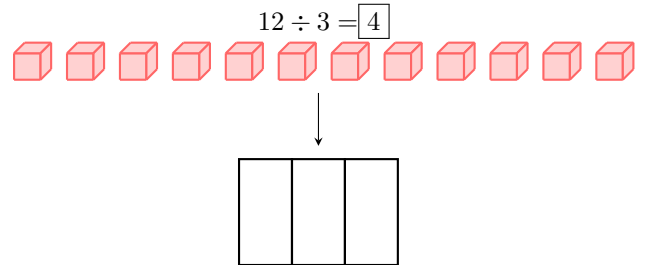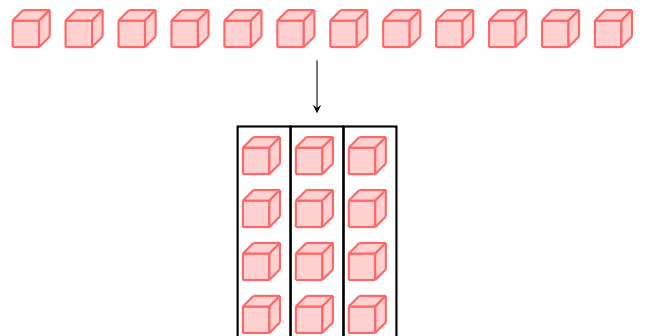
$12 \div 3 = \boxed{4}$

Answer:

- There are 4 blocks in each group.
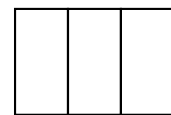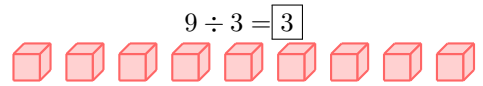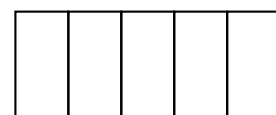
- $12 \div 3 = 4$

Ex 15:
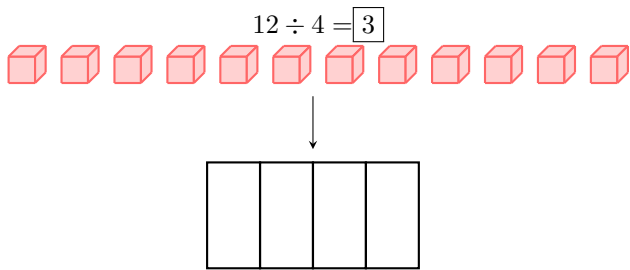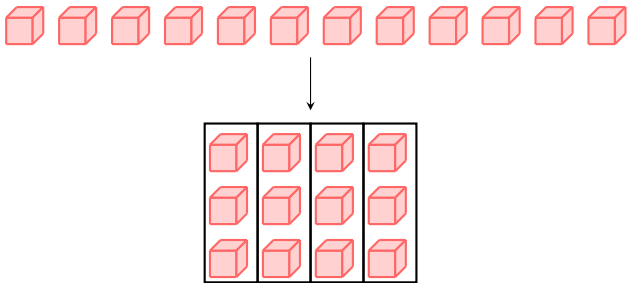
$$12 \div 4 = \boxed{3}$$

Answer:

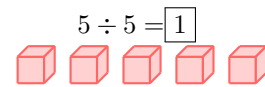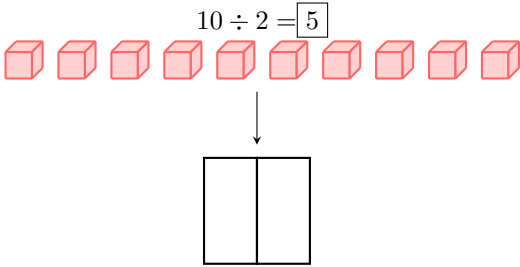- There are 3 block in each groups.

- $12 \div 4 = 3$

Ex 16:
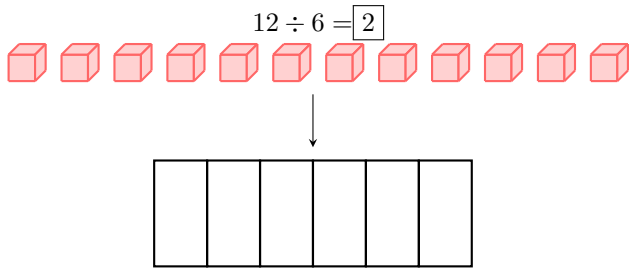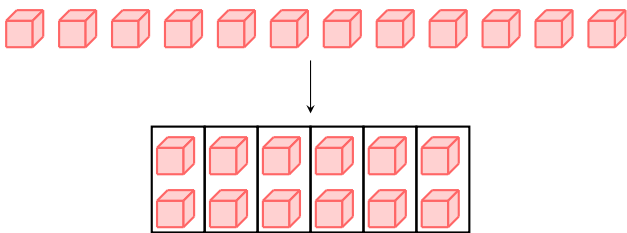
$$12 \div 6 = \boxed{2}$$

Answer:

- There are 2 blocks in each group.

- $12 \div 6 = 2$

B REPRESENTATIONS OF DIVISION

B.1 FINDING THE NUMBER OF ITEMS

Ex 17: 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 equal groups
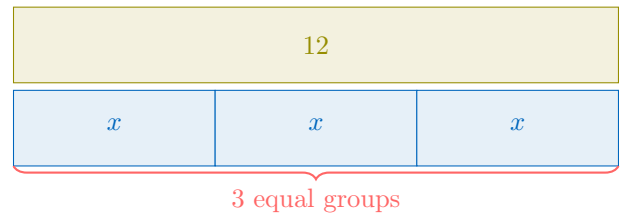
- $3 \times 4 = 4 + 4 + 4$
      $= 12$

- So $12 \div 3 = 4$

- Mei needs to put 4 cookies in each box.
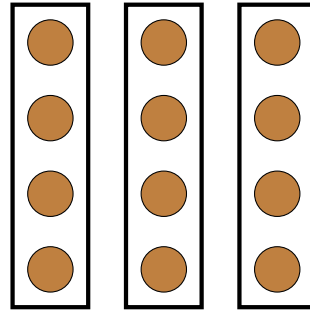
**Ex 18:** Hugo and Louis share a present of 8 marbles equally. How many marbles will each of them get?

$\boxed{4}$ marbles each.

Answer:

2 equal groups
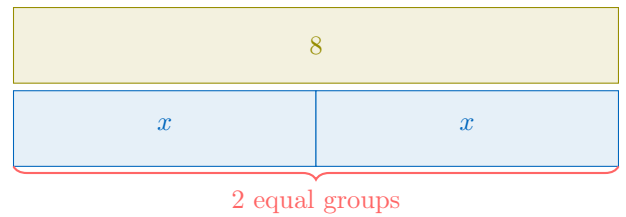
- $2 \times 4 = 4 + 4$
      $= 8$

- So $8 \div 2 = 4$

- Hugo and Louis each get 4 marbles.
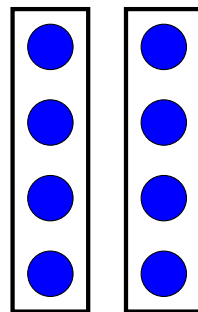
Ex 19: Three pirates find a treasure of 15 gold coins. They want to share the coins equally.
How many coins will each pirate get?

$\boxed{5}$ coins each.

Answer:

$$15$$

x	x	x

3 equal groups
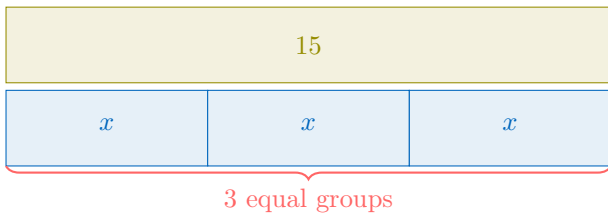
-
- $3 \times 5 = 5 + 5 + 5$
  $= 15$
- So $15 \div 3 = 5$
- Each pirate will get 5 coins.
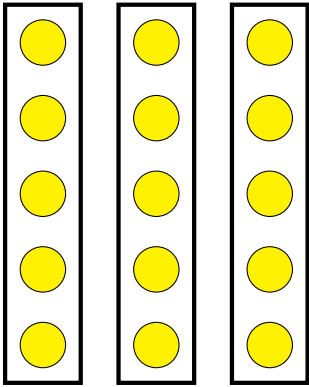
Ex 20: Four friends find a bag with 12 candies. They decide to share the candies equally.
How many candies will each friend get?

$\boxed{3}$ candies each.

Answer:

$$12$$

x	x	x	x

4 equal groups
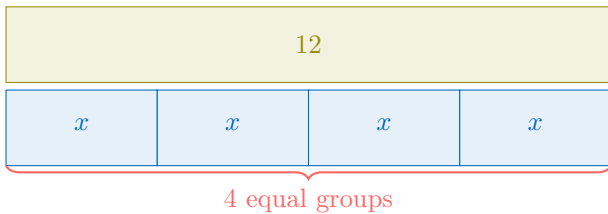
-
- $4 \times 3 = 3 + 3 + 3 + 3$
  $= 12$
- So $12 \div 4 = 3$
- Each friend will get 3 candies.
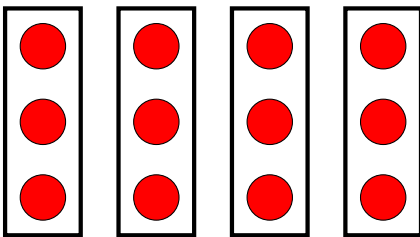
B.2 FINDING THE NUMBER OF GROUPS

Ex 21: 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

$$6$$

2

x equal groups
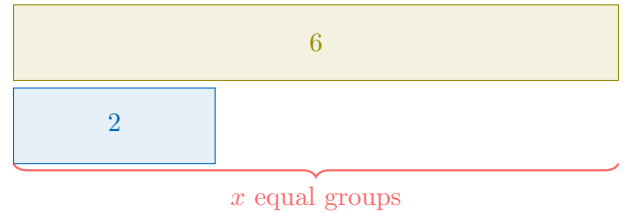
-
- Max needs $6 \div 2$ baskets to pack all the lemons.
- $3 \times 2 = 2 + 2 + 2$
  $= 6$
- So $6 \div 2 = 3$.
- Louis needs 3 baskets to pack all the lemons.
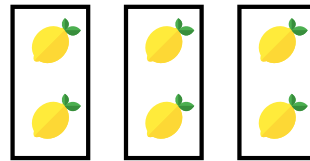
Ex 22: Hugo has 18 eggs.
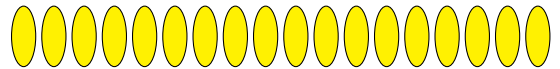
He wants to put them into boxes such that each box contains 6 eggs.
How many boxes to pack all the eggs?

$\boxed{3}$ boxes

Answer:

- We can think of division as:

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

$$18$$

6

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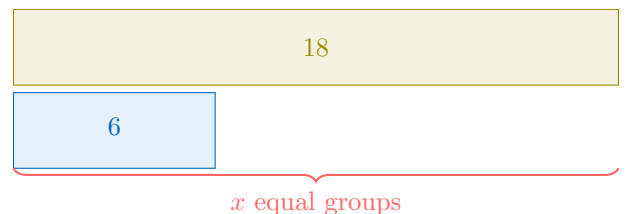
-
- Hugo needs $18 \div 6$ boxes to pack all the eggs.
- $3 \times 6 = 6 + 6 + 6$
  $= 18$
- So $18 \div 6 = 3$.

- Hugo needs 3 boxes to pack all the eggs.

-

Ex 23: There are 12 eyes in total. Each person has 2 eyes. How many people are there?

$\boxed{6}$ people

- We can think of division as:

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

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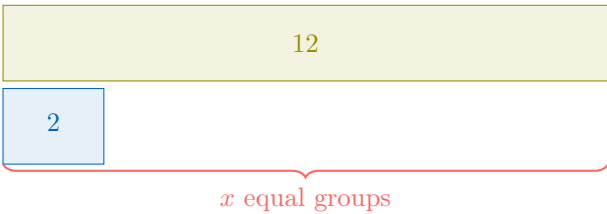
-
- There are $12 \div 2 = 6$ people.
- $6 \times 2 = 2 + 2 + 2 + 2 + 2 + 2$
  $= 12$
- So, $12 \div 2 = 6$.
- There are 6 people in total.

-
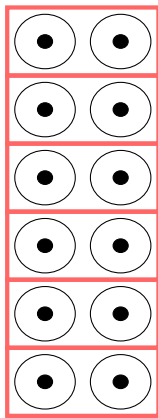
Ex 24: A class has 12 students. The teacher wants to divide the students into groups with 4 students in each group. How many groups of students can be made?
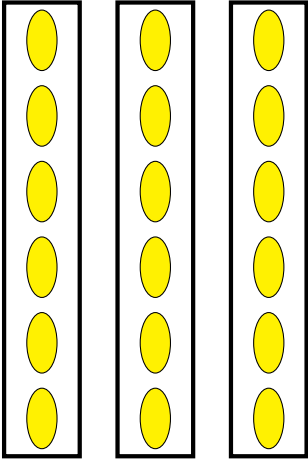
$\boxed{3}$ groups

- We can think of division as:

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

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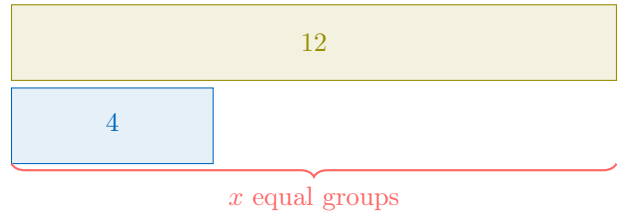
-
- The teacher needs $12 \div 4$ groups to arrange all the students.
- $3 \times 4 = 4 + 4 + 4$
  $= 12$
- So $12 \div 4 = 3$.
- The teacher can make 3 groups of students.

-
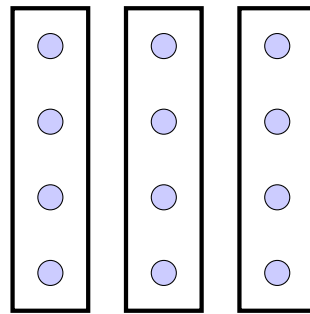
B.3 FINDING THE RIGHT OPERATION

MCQ 25: 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?

- **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 26: 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 27: Which problem can we solve with $10 \div 2$?
Choose 1 answer:

- ☐ 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:
  $$10 \times 2$$

- The division $10 \div 2$ can solve this problem: There are 10 chairs. The teacher places 2 chairs in each row. How many rows of chairs are there?

MCQ 28: 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?