MULTIPLICATION (KEY)

MULTIPLYING 3 - DIGIT NUMBERS (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. To find (846×5):

1. Multiply: 846×5

Breaking it down:

- ($800 \times 5 = 4000$)

- ($40 \times 5 = 200$)

- ($6 \times 5 = 30$)

Now add those results together: $4000 + 200 + 30 = 4230$

2. Conclusion:

The correct answer is A) 4230.

2. To calculate (719×7):

1. Multiply : 719×7

Breaking it down:

- ($700 \times 7 = 4900$)

- ($19 \times 7 = 133$)

Now add those results together: $4900 + 133 = 5033$

2. Conclusion:

The correct answer is D) 5033.

3. To calculate (654×9):

1. Multiply: 654 \times 9

 Breaking it down:

- ($600 \times 9 = 5400$)

- (50 × 9 = 450)

- (4 × 9 = 36)

Now add those results together: 5400 + 450 + 36 = 5886

2. Conclusion:

The correct answer is C) 5886.

4. To calculate (372 × 8):

1. Multiply: 372 × 8

Breaking it down:

- (300 × 8 = 2400)

- (70 × 8 = 560)

- (2 × 8 = 16)

Now add those results together: 2400 + 560 + 16 = 2976

2. Conclusion:

The correct answer is B) 2976.

ADVANCED LEVEL

More than One Answer Type
5. Let's evaluate each statement about multiplying 3-digit numbers by single-digit numbers with regrouping:
A) Regrouping involves carrying over when multiplying digits. True. Regrouping (or carrying) is necessary when the product of the digits in a place value exceeds 9.
B) When multiplying, start with the ones place and move to the left. True. In multiplication, you typically start with the rightmost digit (ones place) and proceed left.
C) Each place value is multiplied separately and then added together. True. Each digit of the 3-digit number is multiplied by the single-digit number separately, considering their place values.

D) The final product is obtained by adding all the partial products.

True. The final result is indeed the sum of all the partial products calculated from each digit.

Conclusion:

All statements (A, B, C, and D) are true.

6. Let's evaluate each statement about the role of place value in multiplication with regrouping:

A) Place value helps determine the position of digits in a number.

True. Place value indicates the value of each digit based on its position (ones, tens, hundreds, etc.).

B) Multiplying by single-digit numbers involves considering the place value of each digit.

True. When multiplying, each digit is treated according to its place value, which affects the result.

C) The product of a multiplication problem depends on the place value of the digits being multiplied.

True. The value of the digits (based on their place value) directly impacts the overall product.

D) Place value affects how numbers are regrouped during multiplication.

True. Regrouping often involves carrying over values based on place value, especially when products exceed single digits.

Conclusion:

All statements (A, B, C, and D) are accurate in describing the role of place value in multiplication with regrouping.

Fill In the Blanks

7. To calculate (537 × 8):

1. Multiply:

   - (500 × 8 = 4000)

   - (30 × 8 = 240)

   - (7 × 8 = 56)

2. Add those results together: 4000 + 240 + 56 = 4296

So, (537 × 8 = 4296).

8. To calculate (694 × 9):

1. Multiply:

   - (600 × 9 = 5400)

   - (90 × 9 = 810)

   - (4 × 9 = 36)

2. Add those results together: 5400 + 810 + 36 = 6246

So, (694 × 9 = 6246).

Answer the Following Questions

9. To calculate (309 × 9):

1. Multiply:

   - (300 × 9 = 2700)

   - (9 × 9 = 81)

2. Add those results together: 2700 + 81 = 2781

So, (309 × 9 = 2781).

10. To calculate (837 × 7):

1. Multiply:

   - (800 × 7 = 5600)

   - (30 × 7 = 210)

   - (7 × 7 = 49)

2. Add those results together: 5600 + 210 + 49 = 5859

So, (837 × 7 = 5859).

11. To calculate (524 × 5):

1. Multiply:

   - (500 × 5 = 2500)

   - (20 × 5 = 100)

   - (4 × 5 = 20)

2. Add those results together: 2500 + 100 + 20 = 2620

So, (524 × 5 = 2620).

12. To calculate (234 × 2):

1. Multiply:

   - (200 × 2 = 400)

   - (30 × 2 = 60)

   - (4 × 2 = 8)

2. Add those results together: 400 + 60 + 8 = 468

So, (234 × 2 = 468).

13. To calculate (492 × 3):

1. Multiply:

   - (400 × 3 = 1200)

   - (90 × 3 = 270)

   - (2 × 3 = 6)

2. Add those results together: 1200 + 270 + 6 = 1476

So, (492 × 3 = 1476).

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. To calculate (425 × 3):

1. Multiply:

   - (400 × 3 = 1200)

   - (20 × 3 = 60)

   - (5 × 3 = 15)

2. Add those results together: 1200 + 60 + 15 = 1275

So, (425 × 3 = 1275).
The correct answer is A) 1275.

2. To calculate (648 × 4):

1. Multiply:
   - (600 × 4 = 2400)
   - (40 × 4 = 160)
   - (8 × 4 = 32)

2. Add those results together: 2400 + 160 + 32 = 2592

So, (648 × 4 = 2592).

The correct answer is B) 2592.

3. To calculate (793 × 2):

1. Multiply:
   - (700 × 2 = 1400)
   - (90 × 2 = 180)
   - (3 × 2 = 6)

2. Add those results together: 1400 + 180 + 6 = 1586

So, (793 × 2 = 1586).

The correct answer is A) 1586.

4. To calculate (537 × 6):

1. Multiply:
   - (500 × 6 = 3000)
   - (30 × 6 = 180)
   - (7 × 6 = 42)

2. Add those results together: 3000 + 180 + 42 = 3222

So, (537 × 6 = 3222).

The correct answer is B) 3222.

ADVANCED LEVEL

More than One Answer Type
5. When multiplying 3-digit numbers by single-digit numbers with re-grouping, the following step-by-step process is typically followed:

1. Start with the ones place and multiply (A).

2. Proceed to the tens place and multiply (B).

3. Move to the hundreds place and multiply (C).

4. Finally, add all the partial products (D).

Conclusion:

All steps (A, B, C, and D) are part of the correct process for this type of multiplication. Each step is essential to arrive at the final product.

6. All of the following statements correctly describe the concept of multiplication with regrouping:

A) Multiplication involves combining equal groups.

True. This is the foundational concept of multiplication.

B) Multiplication is a process of repeated addition.

True. This highlights how multiplication can be understood in terms of adding groups together.

C) Regrouping is necessary to perform multiplication accurately.

True. Regrouping (or carrying) is often necessary when the product of digits exceeds a single digit.

D) The product is the result of adding all the partial products.

True. In multiplication, especially with multiple digits, you calculate partial products and then sum them to get the final result.

Conclusion:

All statements (A, B, C, and D) are correct in describing multiplication with regrouping.

Fill In the Blanks
7. To calculate (827×2):

1. Multiply:

   - ($800 \times 2 = 1600$)

   - ($20 \times 2 = 40$)

   - ($7 \times 2 = 14$)

2. Add those results together: 1600 + 40 + 14 = 1654

So, (827 × 2 = 1654).

9. To calculate (952 × 0):

Any number multiplied by zero equals zero.

So, (952 × 0 = 0).

Matching Type
9.
1. 7 × 7 = B. 49
2. 9 × 5 = D. 45
3. 6 × 9 = A. 54
4. 4 × 4 = C. 16

Answer the Following Questions
10. To calculate (126 × 3):

1. Set Up the Multiplication: 126 × 3

2. Break It Down:

- You can distribute: 126 × 3 = (100 + 20 + 6) × 3

   - Multiply each part:

     - (100 × 3 = 300)

     - (20 × 3 = 60)

     - (6 × 3 = 18)

3. Add the Results: 300 + 60 + 18 = 378

So, (126 × 3 = 378).

11. To calculate (214 × 2):

1. Set Up the Multiplication: 214 × 2

2. Multiply:

   - Start with the units: (4 × 2 = 8)

   - Then the tens: (1 × 2 = 2)

   - Finally, the hundreds: (2 × 2 = 4)

3. Combine the Results: 214 \times 2 = 428
So, (214 × 2 = 428).

12. To calculate (108 × 4):

1. Set Up the Multiplication: 108 × 4

2. Break It Down:

- You can distribute: 108 × 4 = (100 + 0 + 8) × 4

  - Multiply each part:

    - (100 × 4 = 400)

    - (0 × 4 = 0)

    - (8 × 4 = 32)

3. Add the Results: 400 + 0 + 32 = 432

So, (108 × 4 = 432).

13. To calculate (137 × 5):

1. Set Up the Multiplication: 137 × 5

2. Break It Down:

- You can distribute: 137 × 5 = (100 + 30 + 7) × 5

  - Multiply each part:

    - (100 × 5 = 500)

    - (30 × 5 = 150)

    - (7 × 5 = 35)

3. Add the Results: 500 + 150 + 35 = 685

So, (137 × 5 = 685).

MULTIPLYING BY TENS AND HUNDREDS (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. The answer is B) Two places.

Explanation:

When you multiply a number by 100, you're essentially scaling it up by a factor of 100. In terms of decimal places:

1. Understanding the Shift**: Each time you multiply by 10, you shift the digits one place to the left. So:

   -(Multiply by 10) --- shift 1 place

   - (Multiply by 100) (which is (10 × 10)) --- shift 2 places

2. Example:

   - Take the number 25.

   - (25 × 100 = 2500)

   - The original number (25) shifted two places to the left becomes 2500.

So, when multiplying by 100, you shift the digits two places to the left.

2. The answer is A) Associative property.
Explanation: Associative Property: This property states that when you multiply (or add) numbers, the way you group them does not change the result. For multiplication, it means: (a×b)×c=a×(b×c). This shows that no matter how the numbers are grouped, the product remains the same.

3. The answer is A) 6×4 + 6×3.

Explanation:

Using the distributive property, you can break down the expression (6 × (4 + 3)) as follows:

1. Distribute the 6 to both 4 and 3: 6 × (4 + 3) = 6 × 4 + 6 × 3

2. You can then compute the expression:

- 6 × 4 = 24

- 6 × 3 = 18

- So, 6 × 4 + 6 × 3 = 24 + 18 = 42.

Thus, the expression using the distributive property is A) 6×4 + 6×3.

4. The answer is B) 60.

Explanation:

To calculate 6 × 10:

- You simply multiply the two numbers: 6 × 10 = 60

So, the correct answer is 60.

ADVANCED LEVEL

More than One Answer Type

5. The answer is A) Commutative property.

Explanation:

- Commutative Property: This property states that the order in which you multiply numbers does not change the product. For example: a × b = b × a.

This shows that changing the order of the factors will yield the same result.

- Associative Property: This property involves changing the grouping of the factors rather than their order. It states: (a × b) × c = a × (b × c).

- Distributive Property: This property involves distributing multiplication over addition or subtraction but does not specifically relate to changing the order of factors.

Thus, the correct answer is A) Commutative property.

6. The true statements about multiplying by hundreds are B) Shifting the digits two places to the left multiplies the number by 100 and C) Multiplying by 100 adds two zeros to the right of the original number.

Explanation:
- A) Multiplying a number by 100 increases each digit by a factor of 100.

This statement is false. Multiplying by 100 does not change the value of each digit itself; rather, it scales the entire number up by 100.

- B) Shifting the digits two places to the left multiplies the number by 100. This statement is true. When you multiply a number by 100, you effectively shift the digits two places to the left.

-C) Multiplying by 100 adds two zeros to the right of the original number. This statement is true. For example, ($25 \times 100 = 2500$), which adds two zeros to 25.

- D) Multiplying by 100 does not change the value of the original number. This statement is false. Multiplying by 100 increases the value of the original number.

So, the correct answers are B and C.

Fill In the Blanks
7. Multiplying a number by 10 increases each digit by a factor of 10.

Explanation:

When you multiply a number by 10, each digit shifts one place to the left in the number. For example, if you take the number 5:

- ($5 \times 10 = 50$)

- The digit 5 is effectively increased by a factor of 10.

So, the answer is 10.

8. When multiplying by 100, each digit is shifted two places to the left.

Explanation:

Multiplying by 100 effectively moves each digit two positions left, adding two zeros to the right of the original number. For example, if you take the number 25: - ($25 \times 100 = 2500$)

Here, the digit 2 moves from the hundreds place to the thousands place, and the digit 5 moves from the tens place to the hundreds place. So, the answer is two.

9. The commutative property states that changing the order of factors does not change the product.

Explanation: This property can be expressed as: a × b = b × a
For example, 3 × 4 = 4 × 3, and both equal 12. Thus, the order in which you multiply the numbers does not affect the result.

10. The product of any number multiplied by 0 is always 0.

Explanation:

This is known as the zero property of multiplication. It states that for any number a : a × 0 = 0
For example, 5 × 0 = 0 and -3 × 0 = 0. No matter what number you multiply by 0, the result is always 0.

Answer the Following Questions
11. using multiplication properties.

a. 136 × 2

Using basic multiplication: 136 × 2 = 272

b. 6 × (3 × 2)

Using the associative property of multiplication, we can rearrange the grouping: 6 × (3 × 2) = (6 × 3) × 2

Calculating: 6 × 3 = 18 and then 18 × 2 = 36

So, 6 × (3 × 2) = 36

c. 105 = ?

This seems to be a request for a factorization or representation of 105. Using the identity property of multiplication: 105 = 105 × 1

Or, we can break it down into its prime factors: 105 = 3 × 5 × 7

So, depending on what you meant by 105 = ?, you can either express it as 105 × 1 or as 3 × 5 × 7.

12. To calculate 5 × 400 : 5 × 400 = 2000

Explanation:

You can think of it as:

1. Multiply 5 × 4 = 20

2. Then, add the two zeros from 400: 20 × 100 = 2000
So, 5 × 400 = 2000.

13. To calculate 89 × 200: 89 × 200 = 17800

Explanation:

You can break it down like this:

1. Multiply 89 × 2 = 178

2. Then, add the two zeros from 200: 178 × 100 = 17800

So, 89 × 200 = 17800.

14. To calculate 71 × 10: 71 × 10 = 710

Explanation:

When you multiply by 10, you simply shift the digits one place to the left, adding a zero to the end of the number.

So, 71 × 10 = 710.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. The result of multiplying 427 by 10 is A) 4270.

Explanation:

When you multiply a number by 10, you shift the digits one place to the left, effectively adding a zero to the end.

So: 427 × 10 = 4270

Thus, the correct answer is A) 4270.

2. The result of multiplying 548 by 100 is B) 54800.

Explanation:

When you multiply a number by 100, you shift the digits two places to the left, effectively adding two zeros to the end of the number.

So: 548 × 100 = 54800
Thus, the correct answer is B) 54800.

3. The property of multiplication that states that changing the order of factors does not change the product is C) Commutative property.

Explanation:

The commutative property can be expressed as: a × b = b × a

This means that the order in which you multiply numbers does not affect the result. For example, 3 × 4 = 4 × 3, both equal 12.

4. The result of multiplying 579 by 0 is B) 0.

Explanation:

According to the zero property of multiplication, any number multiplied by 0 is always 0. So: 579 × 0 = 0

Thus, the correct answer is B) 0.

ADVANCED LEVEL

More than One Answer Type
5. All of the following are properties of multiplication:

1. A) Commutative property: This states that changing the order of the factors does not change the product. For example, a × b = b × a.

2. B) Associative property: This states that changing the grouping of the factors does not change the product. For example,(a × b) × c = a × (b × c).

3. C) Distributive property: This property involves multiplying a number by a sum or difference. For example, a × (b + c) = a × b + a × c.

4. D) Identity property: This states that any number multiplied by 1 remains unchanged. For example, a ×1 = a.

So, all options A, B, C, and D are properties of multiplication.

6. The true statements about multiplying by tens are B) Shifting the digits one place to the left multiplies the number by 10 and C) Multiplying by 10 adds a zero to the right of the original number.

Explanation:

- A) Multiplying a number by 10 increases each digit by a factor of 10.

This statement is false. It does not increase each digit individually; it shifts the entire number.

-B) Shifting the digits one place to the left multiplies the number by 10.

This statement is true. For example, 25 × 10 = 250.

-C) Multiplying by 10 adds a zero to the right of the original number.**

This statement is true. For example, 5 × 10 = 50, where a zero is added to the end of 5.

-D) Multiplying by 10 does not change the value of the original number.

This statement is false. Multiplying by 10 increases the value of the original number.

Thus, the correct answers are B and C.

Fill In the Blanks
7. To calculate 6 × 600: 6 × 600 = 3600

Explanation:

You can think of it as:

1. Multiply 6 × 6 = 36

2. Then add the two zeros from 600: 36 × 100 = 3600

So, 6 × 600 = 3600.

8. To find the missing number in the equation 850 × _____= 8500, you can divide 8500 by 850:   8500/850 = 10

So, the missing number is 10.

Thus, 850 × 10 = 8500.

9. To find the missing number in the equation ____×264=2640, you can divide 2640 by 264: 2640/264 = 10
So, the missing number is 10.
Thus, 10 × 264=2640.

10. To calculate 4 × 500: 4 × 500 = 2000

Explanation:

You can think of it as:

1. Multiply 4 × 5 = 20

2. Then add the two zeros from 500:

20 × 100 = 2000

So, 4 × 500 = 2000.

Answer the Following Questions

11. To calculate 37 × 10: 37 × 10 = 370

Explanation:

When you multiply by 10, you shift the digits one place to the left, adding a zero to the end of the number.

So, 37 × 10 = 370.

12. To calculate 857 × 100: 857 × 100 = 85700

Explanation:

When you multiply by 100, you shift the digits two places to the left, effectively adding two zeros to the end of the number.

So, 857 × 100 = 85700.

13. To calculate 964 × 0: 964 × 0 = 0

Explanation:

According to the zero property of multiplication, any number multiplied by 0 is always 0. So, the result is 0.

14. To calculate 635 × 10: 635 × 10 = 6350

Explanation:

When you multiply by 10, you shift the digits one place to the left, effectively adding a zero to the end of the number.

So, 635 × 10 = 6350.

MULTIPLYING TWO 2-DIGIT NUMBERS (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. The product of 96 × 51 is C) 4896.

Calculation: 96 × 51 = 4896
So, the correct answer is B) 4896.

2. The result of multiplying 77 × 84 is C) 6468.

Calculation: 77 × 84 = 6468

So, the correct answer is C) 6468.

3. The product of 64 × 97 is A) 6208.

Calculation: 64 × 97 = 6208

So, the correct answer is A) 6208.

4. The result of multiplying 93 × 72 is A) 6696.

Calculation: 93 × 72 = 6696

So, the correct answer is A) 6696.

ADVANCED LEVEL

More than One Answer Type

5. The true statements about regrouping when multiplying two 2-digit numbers are:

- A) Regrouping involves carrying over when multiplying digits.

This statement is true. When the product of two digits exceeds 9, you carry over to the next column.

-C) Regrouping may occur when the product of two digits exceeds 9.

This statement is also true. If the product of any two digits is greater than 9, you will need to regroup by carrying over.

Explanation of the Other Options:

- B) Regrouping is not necessary when multiplying 2-digit numbers.

This statement is false. Regrouping is often necessary, especially if any digit multiplication exceeds 9.

- D) Regrouping helps in aligning the partial products correctly.

This statement is somewhat misleading. While regrouping is important for carrying over, it doesn't directly relate to aligning partial products, which is more about the placement of the numbers in the multiplication process.

So, the correct statements are A and C.

6. The true statements about multiplying two 2-digit numbers without regrouping are:

-A) Each digit of one number is multiplied by each digit of the other number.
This statement is true. When multiplying two 2-digit numbers, you multiply each digit of the first number by each digit of the second number.

-B) Partial products are added without any carrying over.
This statement is also true, as it specifies that we're considering multiplication without regrouping. If no products exceed 9, there's no need for carrying over.

-D) The final product is obtained by adding all the partial products. This statement is true. The final product is indeed obtained by adding all the partial products together.

Explanation of the Other Option:

-C) Regrouping may occur when the product of two digits exceeds 9. This statement is false in the context of "without regrouping." If we are not regrouping, then we are specifically not carrying over, so this situation wouldn't apply.

Thus, the correct statements are A, B, and D.

Fill In the Blanks
7. Multiplying two 2-digit numbers without regrouping involves multiplying each digit of one number by each digit of the other number and then *adding* the partial products.

Complete Statement: "Multiplying two 2-digit numbers without regrouping involves multiplying each digit of one number by each digit of the other number and then *adding* the partial products."

8. Place value affects how numbers are *aligned* during multiplication.

Complete Statement:

"Place value affects how numbers are aligned during multiplication."

This is important because each digit contributes to a different value based on its position, and aligning them correctly ensures accurate addition of partial products.

Answer the Following Questions

9. To calculate 56 × 16: 56 × 16 = 896
Explanation:
You can break it down as follows:

1. Multiply 56 × 10 = 560.

2. Multiply 56 × 6 = 336.

3. Add the two results together: 560 + 336 = 896

So, 56 × 16 = 896.

10. To calculate 33 × 13: 33 × 13 = 429
Explanation:
You can break it down as follows:

1. Multiply 33 × 10 = 330.

2. Multiply 33 × 3 = 99.

3. Add the two results together: 330 + 99 = 429

So, 33 × 13 = 429.

11. To calculate 96 × 83: 96 × 83 = 7968

Explanation:

You can break it down as follows:

1. Multiply 96 × 80 = 7680. (since 80 = 8 × 10)

2. Multiply 96 × 3 = 288.

3. Add the two results together: 7680 + 288 = 7968

So, 96 × 83 = 7968.

12. To calculate 75 × 97: 75 × 97 = 7275

Explanation:

You can break it down as follows:

1. Multiply 75 × 90 = 6750   (since 90 = 9 × 10)

2. Multiply 75 × 7 = 525

3. Add the two results together: 6750 + 525 = 7275

So, 75 × 97 = 7275.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. The result of multiplying 23 × 45 is A) 1035.

Calculation: 23 × 45 = 1035

So, the correct answer is A) 1035.

2. The product of 56 × 78 is B) 4368.

Calculation: 56 × 78 = 4368

So, the correct answer is B) 4368.

3. When multiplying two 2-digit numbers, the typical number of partial products generated is D) Four.

Explanation:

For example, when multiplying (AB × CD) (where A and B are the digits of the first number, and C and D are the digits of the second number), you would calculate:

1. A × C, 2. A × D, 3. B × C , 4. B × D.

So, there are four partial products generated.

4. The result of multiplying 37 × 29 is A) 1073.

Calculation: 37 × 29 = 1073
So, the correct answer is B) 1073.

ADVANCED LEVEL

More than One Answer Type
5. To determine which examples involve regrouping when multiplying two 2-digit numbers, we need to look for cases where the product of any single digits exceeds 9. Here are the calculations for each option:

A) 24 × 37

- 4 × 7 = 28 (requires regrouping)

B) 19 × 52

9 × 2 = 18 (requires regrouping)

C) 36 × 45

6 × 5 = 30 (requires regrouping)

D) 17 × 28

7 × 8 = 56 (requires regrouping)

Conclusion:

All of the options involve regrouping. Therefore, the correct answers are:
-A) 24 × 37 - B) 19 × 52 - C) 36 × 45 - D) 17 × 28.

6. The true statements about the role of place value when multiplying two 2-digit numbers are:

A) Place value helps determine the position of digits in the final product.

- True. Place value is crucial in ensuring that the digits are aligned correctly in the final product based on their value.

B) Multiplying by tens involves shifting the digits one place to the left.

- True. When multiplying by tens, the digits shift left, which adds a zero to the end of the number.

C) Place value affects how numbers are regrouped during multiplication.

- True. Place value is important when regrouping, as it determines which digits need to be carried over based on their value.

D) Place value does not influence the result of a multiplication operation.

- False. Place value directly influences the result of a multiplication operation because it determines the significance of each digit.

Conclusion:

The correct statements are A, B, and C.

Fill In the Blanks
7. When multiplying two 2-digit numbers, *regrouping* involves carrying over when the product of two digits exceeds 9.

Complete Statement:

"When multiplying two 2-digit numbers, regrouping involves carrying over when the product of two digits exceeds 9."

8. The final product of multiplying two 2-digit numbers is obtained by adding all the partial products.

Complete Statement:

"The final product of multiplying two 2-digit numbers is obtained by adding all the partial products."

Answer the Following Questions

9. To calculate 14 × 12: 14 × 12 = 168

Explanation:

You can break it down as follows:

1. Multiply 14 × 10 = 140.
2. Multiply 14 × 2 = 28.
3. Add the two results together: 140 + 28 = 168

So, 14 × 12 = 168.

10. To calculate 20 × 14: 20 × 14 = 280

Explanation:

When you multiply by 20, you can think of it as:

1. Multiply 20 × 10 = 200.
2. Multiply 20 × 4 = 80.
3. Add the two results together: 200 + 80 = 280

So, 20 × 14 = 280.

11. To calculate 42 × 23: 42 × 23 = 966

Explanation:

You can break it down as follows:

1. Multiply 42 × 20 = 840.
2. Multiply 42 × 3 = 126.
3. Add the two results together: 840 + 126 = 966

So, 42 × 23 = 966.

12. To calculate 53 × 15 : 53 × 15 = 795

Explanation:

You can break it down as follows:

1. Multiply 53 × 10 = 530.

2. Multiply 53 × 5 = 265.

3. Add the two results together: 530 + 265 = 795

So, 53 × 15 = 795.