

Multiplication Puzzles

Complete each puzzle.

1

| | |
|---|---|
| | 9 |
| × | 5 |
| 4 | |

2

| | |
|---|---|
| | 7 |
| × | 5 |
| 3 | |

3

| | |
|---|---|
| | 6 |
| × | 4 |
| 2 | |

4

| | |
|---|---|
| | 4 |
| × | 5 |
| | 0 |

5

| | |
|---|---|
| | 5 |
| × | 5 |
| 2 | 5 |

6

| | |
|---|---|
| | 3 |
| × | 9 |
| | 7 |

7

| | |
|---|---|
| | 8 |
| × | 4 |
| 3 | |

8

| | |
|---|---|
| | 7 |
| × | 4 |
| | 8 |

9

| | |
|---|---|
| | 8 |
| × | 2 |
| 1 | |



Test Prep

- 10 Stan has an unusual weekly allowance plan. He receives **10¢** every Monday, **20¢** every Tuesday, **30¢** every Wednesday, and so on. That is, he always gets **10¢** on Mondays, and for the other days of the week, the next day's allowance is always **10¢** more than the day before.

If he begins counting on a Monday, how much total money will Stan receive after 10 days? Explain your answer.

Multiples of 10 and 100

① $2 \times 3 = \square$

$2 \times 30 = \square$

$20 \times 3 = \square$

$20 \times 30 = \square$

② $6 \times 8 = \square$

$6 \times 80 = \square$

$60 \times 8 = \square$

$60 \times 80 = \square$

③ $4 \times 8 = \square$

$4 \times 80 = \square$

$40 \times 8 = \square$

$40 \times 80 = \square$

④ $3 \times 4 = \square$

$30 \times 4 = \square$

$3 \times 40 = \square$

$30 \times 40 = \square$

⑤ $8 \times 9 = \square$

$8 \times 90 = \square$

$80 \times 90 = \square$

$80 \times 9 = \square$

⑥ $6 \times 9 = \square$

$60 \times 90 = \square$

$60 \times 9 = \square$

$6 \times 90 = \square$

⑦ $4 \times 6 = \square$

$4 \times 60 = \square$

$40 \times 60 = \square$

$40 \times 6 = \square$

⑧ $6 \times 7 = \square$

$6 \times 70 = \square$

$60 \times 7 = \square$

$60 \times 70 = \square$

⑨ $9 \times 7 = \square$

$90 \times 70 = \square$

$9 \times 70 = \square$

$90 \times 7 = \square$



Test Prep

- ⑩ What would be the 9th number in this sequence?

5, 10, 15, ...

- A. 35 C. 50
-
- C. 45 D. 90

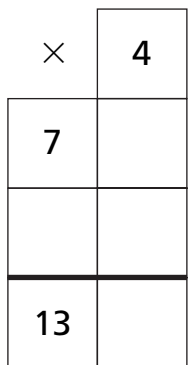
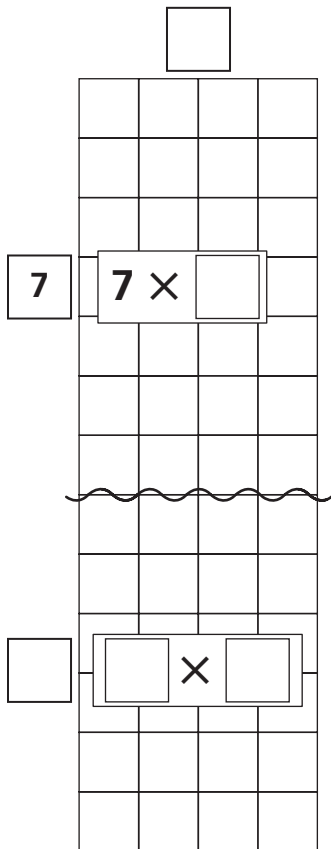
- ⑪ Ariel found that she walks 3 blocks in 8 minutes. How long will it take her to walk 9 blocks?

- A. 9 minutes C. 24 minutes
-
- B. 18 minutes D. 27 minutes

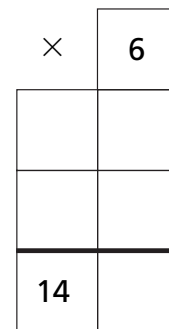
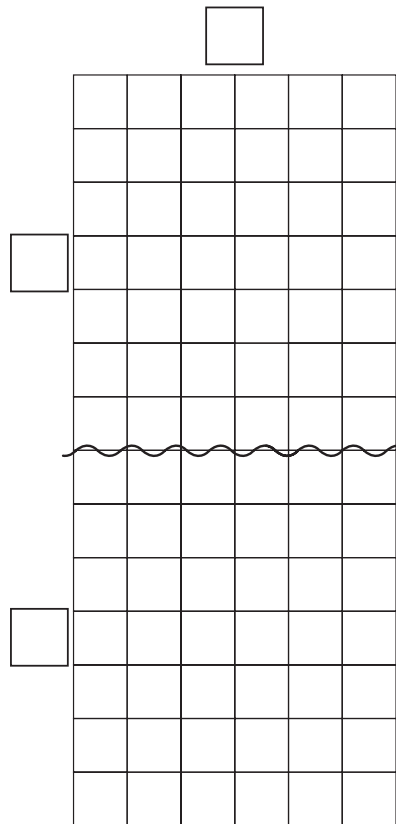
Using Arrays to Model Multiplication

Complete the chart to find the number of squares in the array.

1 13×4



2 6×14



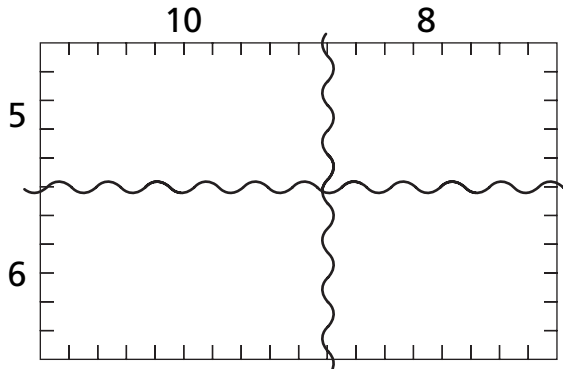
Test Prep

- 3 The product of two numbers is the same as their sum. The numbers can be the same or different. What are the numbers? Explain your answer.

Splitting Larger Arrays

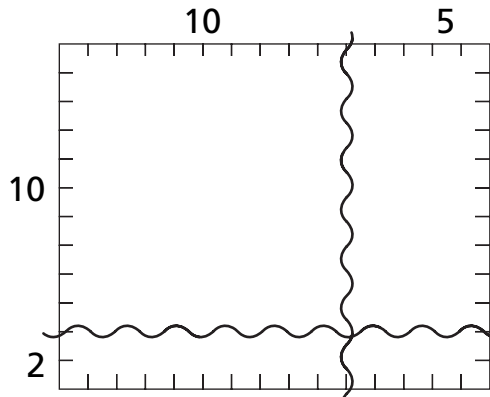
Fill in the chart and find the number of squares in the array.

1 $18 \times 11 = \square$



| | | | |
|----|----|---|----|
| × | 10 | 8 | 18 |
| 5 | | | |
| 6 | | | |
| 11 | | | |

2 $12 \times 15 = \square$



| | | | |
|----|----|---|----|
| × | 10 | 5 | 15 |
| 10 | | | |
| 2 | | | |
| 12 | | | |



Test Prep


3 Eighth graders at Central School were surveyed to see how many took part in the activities shown at the right. Each student surveyed was involved in exactly two activities. These were the results.

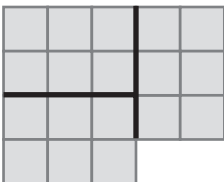
| | |
|-------------|--|
| Band | |
| Chorus | |
| Orchestra | |
| School Play | |

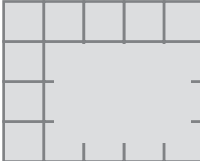
How many students took part in the survey?
Explain your answer.

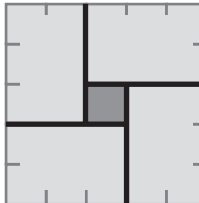
Choosing Simpler Problems

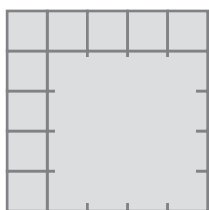
How many tiles  do you need to cover each design?

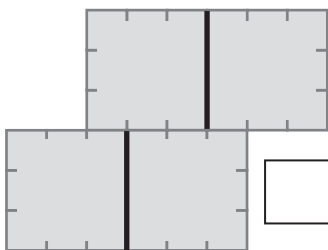
1 
 tiles

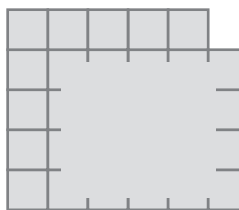
2 
 tiles

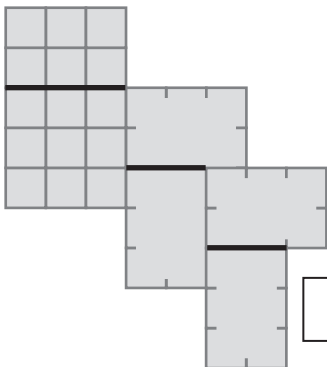
3 
 tiles

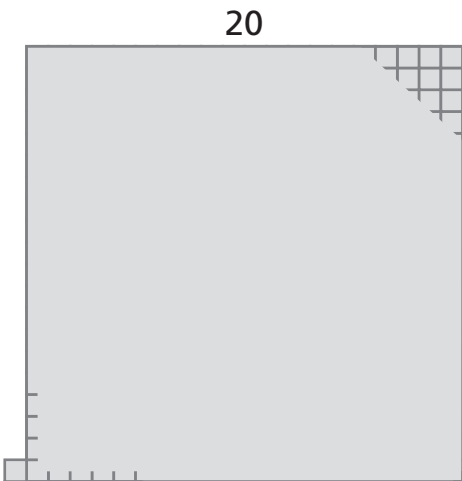
4 
 tiles

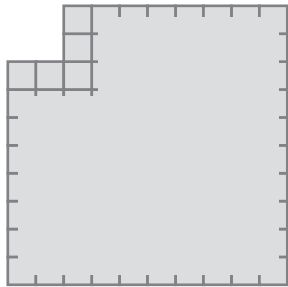
5 
 tiles

6 
 tiles

7 
 tiles

8 
 tiles

9 
 tiles

10 
 tiles

From Charts to Vertical Records

Find the products.

1

| | | | | |
|----|---|----|---|----------------------|
| 4 | × | 8 | = | <input type="text"/> |
| 4 | × | 80 | = | <input type="text"/> |
| 3 | × | 8 | = | <input type="text"/> |
| 30 | × | 8 | = | <input type="text"/> |
| 30 | × | 80 | = | <input type="text"/> |
| 34 | × | 80 | = | <input type="text"/> |

2

| | | | | |
|----|---|----|---|----------------------|
| 5 | × | 6 | = | <input type="text"/> |
| 5 | × | 60 | = | <input type="text"/> |
| 7 | × | 6 | = | <input type="text"/> |
| 70 | × | 6 | = | <input type="text"/> |
| 70 | × | 60 | = | <input type="text"/> |
| 75 | × | 60 | = | <input type="text"/> |

3

$19 \times 30 = \text{_____}$

| | | | |
|----|-------------------------------|--|--|
| | 30 | | |
| 10 | $10 \times 30 = \text{_____}$ | | |
| 9 | $9 \times 30 = \text{_____}$ | | |

| | | | |
|----|----|----------------------------|--|
| × | 30 | | |
| 10 | | $10 \times 30 \rightarrow$ | |
| 9 | | $9 \times 30 \rightarrow$ | |
| 19 | | $19 \times 30 \rightarrow$ | |

| | | |
|---|---|---|
| × | 3 | 0 |
| | 1 | 9 |
| | | |
| | | |
| | | |



Test Prep

4 Thompson Elementary School has 25 desks in each classroom. The school has 1,625 students. Write a number sentence using n , so n equals the number of classrooms needed to seat every student. Explain your answer.

Recording Your Process of Multiplication

Fill in the missing numbers.

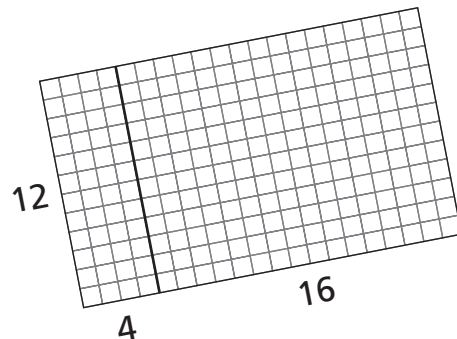
1

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

$(3 \times 4) + (7 \times 4) = \square \times 4 = \square$

2

$$(12 \times 4) + (12 \times 16) = 12 \times \square = \square$$



3

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

$(35 \times 9) + (35 \times 11) = 35 \times \square = \square$

4

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

$21 \times 30 = (20 \times 30) + (\square \times 30) =$
 $\square + \square = \square$



Test Prep

5 How many 2 digit numbers can you make using any of these cards

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

for the tens digit and any of these cards for the ones digit?

| | | | | |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|

- A. 24 numbers
- B. 25 numbers
- C. 30 numbers
- D. 36 numbers

Checking for Reasonable Answers

Complete the multiplication sentences. Fill in the grids if needed.

$30 \times 30 = \boxed{}$

$40 \times 40 = \boxed{}$

$49 \times 49 = \boxed{}$

$29 \times 31 = \boxed{}$

$39 \times 41 = \boxed{}$

$48 \times 50 = \boxed{}$

| | | | |
|-------|--|---|---|
| | | 2 | 9 |
| × | | 3 | 1 |
| <hr/> | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| | | | |
|-------|--|---|---|
| | | 3 | 9 |
| × | | 4 | 1 |
| <hr/> | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| | | | |
|-------|--|---|---|
| | | 4 | 9 |
| × | | 4 | 9 |
| <hr/> | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



Test Prep

Which two statements are correct?

1. $72 \div 8 = 7$ 2. $72 \div 8 > 7$

3. $56 \div 7 < 7$ 4. $56 > 7 \times 7$

A. 1 and 3

C. 1 and 2

B. 2 and 4

D. 3 and 4

Which is not a way to have \$1.19 in change?

A. 4 quarters 3 nickels 4 pennies

B. 4 quarters 2 dimes 4 pennies

C. 4 quarters 1 dime 9 pennies

D. 3 quarters 4 dimes 4 pennies

Multiplication Situations

- 1 Ryan is trying to remember the 3-digit combination to his locker. He remembers that 6 is the first digit, but he can't remember the second digit. He remembers that the third digit is an odd number. What is the greatest number of combinations Ryan might have to try before being able to open his locker? _____ combinations

2

| | | | |
|--|---|---|---|
| | | 4 | 8 |
| | × | 2 | 7 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

← 40×20

← 40×7

← 8×20

← 8×7

20×40 →

7×40 →

20×8 →

7×8 →

| | | | |
|--|---|---|---|
| | | 2 | 7 |
| | × | 4 | 8 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

- 3 Use estimation to match the problems with the answers.

| | |
|-----------------|--------|
| 36×6 | 1,836 |
| 306×6 | 156 |
| 36×36 | 10,656 |
| 13×12 | 216 |
| 96×111 | 1,296 |