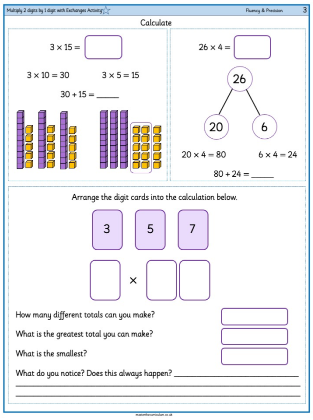
Lesson 1 – Multiply 2 digits by 1 digit: Exchange Activity

NC Objective:	Resources needed:	Vocabulary:
write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	Differentiated Sheets Teaching Slides Base 10	Multiplication, exchange, 2-digits, partition, related facts

Children will be multiplying 2-digits by 1 –digit using equipment. This worksheet is used to supplement the activity on the teaching slides, however the teaching slides can be used by themselves as a class activity and then this worksheet can be used in the next lesson.

Key Questions:
What numbers are we partitioning? What do we multiply the numbers by? Can you use your known related facts to help you answer the question?

Working Towards



Multiply 2 digits by 1 digit with Exchanges Activity Fluency & Precision 3

Calculate

3 × 15 =

3 × 10 = 30 3 × 5 = 15

30 + 15 = ____

26 × 4 =

20 × 4 = 80 6 × 4 = 24

80 + 24 = ____

Arrange the digit cards into the calculation below.

3 5 7

☐ × ☐☐

How many different totals can you make?

What is the greatest total you can make?

What is the smallest?

What do you notice? Does this always happen? ____

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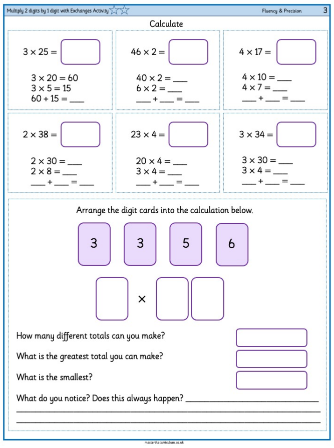
Children on this sheet will use equipment alongside the pictures. This will aid the process when multiplying. They are given the answers to the partitioned step and are expected to add the totals either mentally or counting the equipment.

Working Within



Multiply 2 digits by 1 digit with Exchanges Activity Fluency & Precision 3

Calculate

3 × 25 =
3 × 20 = 60
3 × 5 = 15
60 + 15 = ___

46 × 2 =
40 × 2 = ___
6 × 2 = ___
___ + ___ = ___

4 × 17 =
4 × 10 = ___
4 × 7 = ___
___ + ___ = ___

2 × 38 =
2 × 30 = ___
2 × 8 = ___
___ + ___ = ___

23 × 4 =
20 × 4 = ___
3 × 4 = ___
___ + ___ = ___

3 × 34 =
3 × 30 = ___
3 × 4 = ___
___ + ___ = ___

Arrange the digit cards into the calculation below.

3 3 5 6

☐ × ☐☐

How many different totals can you make?

What is the greatest total you can make?

What is the smallest?

What do you notice? Does this always happen? ____

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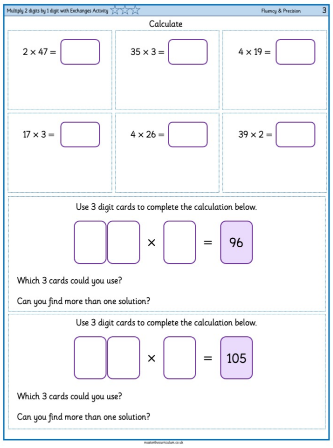
Children on this sheet will use equipment to aid their understanding. This sheet they will complete the missing numbers on the calculation.

Greater Depth



Multiply 2 digits by 1 digit with Exchanges Activity Fluency & Precision 3

Calculate

2 × 47 =

35 × 3 =

4 × 19 =

17 × 3 =

4 × 26 =

39 × 2 =

Use 3 digit cards to complete the calculation below.

☐☐ × ☐ = 96

Which 3 cards could you use?

Can you find more than one solution?

Use 3 digit cards to complete the calculation below.

☐☐ × ☐ = 105

Which 3 cards could you use?

Can you find more than one solution?

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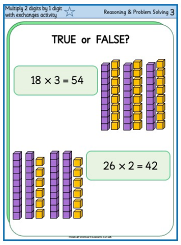
Children on this sheet will be confident in multiplying 2-digits by 1-digit with an exchange. They will lay out their steps independently below the calculations.

Reasoning & Problem Solving

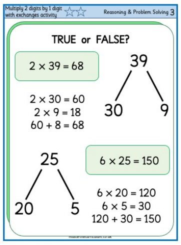


Multiply 2 digits by 1 digit with exchanges activity Reasoning & Problem Solving 3

TRUE or FALSE?

18 × 3 = 54

26 × 2 = 42



Multiply 2 digits by 1 digit with exchanges activity Reasoning & Problem Solving 3

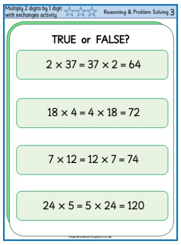
TRUE or FALSE?

2 × 39 = 68

2 × 30 = 60
2 × 9 = 18
60 + 8 = 68

6 × 25 = 150

6 × 20 = 120
6 × 5 = 30
120 + 30 = 150



Multiply 2 digits by 1 digit with exchanges activity Reasoning & Problem Solving 3

TRUE or FALSE?

2 × 37 = 37 × 2 = 64

18 × 4 = 4 × 18 = 72

7 × 12 = 12 × 7 = 74

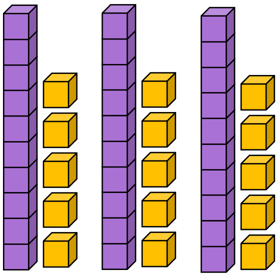
24 × 5 = 5 × 24 = 120

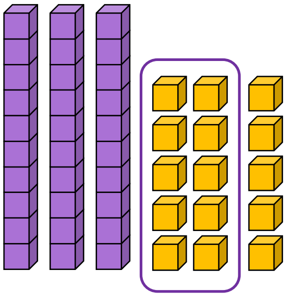
Calculate

3 × 15 = ☐

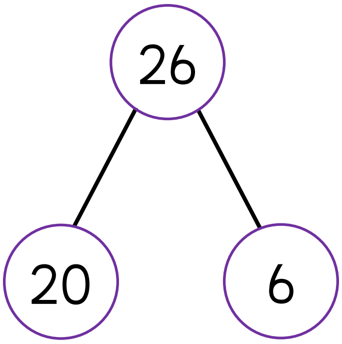
3 × 10 = 30 3 × 5 = 15

30 + 15 = ______





26 × 4 = ☐



20 × 4 = 80 6 × 4 = 24

80 + 24 = ______

Arrange the digit cards into the calculation below.

3 5 7

☐ × ☐ ☐

How many different totals can you make? ☐

What is the greatest total you can make? ☐

What is the smallest? ☐

What do you notice? Does this always happen? ______________________________

____

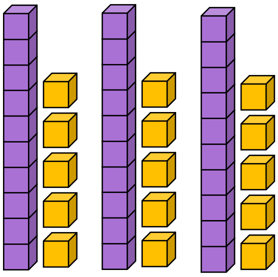
____

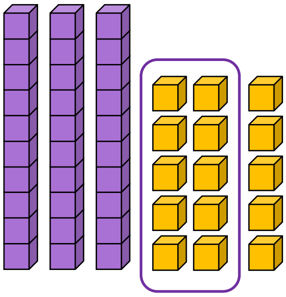
Calculate

3 × 15 = 45

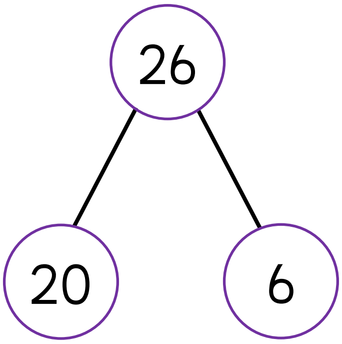
3 × 10 = 30 3 × 5 = 15

30 + 15 = 45





26 × 4 = 104



20 × 4 = 80 6 × 4 = 24

80 + 24 = 104

Arrange the digit cards into the calculation below.

3 5 7

☐ × ☐☐

3 × 57 = 171
3 × 75 = 225
5 × 37 = 185
5 × 73 = 365
7 × 35 = 245
7 × 53 = 371

How many different totals can you make?	6
What is the greatest total you can make?	371
What is the smallest?	171

What do you notice? Does this always happen? Placing the cards in ascending order gives the smallest possible total. Placing the cards in ascending order gives the greatest total.

Calculate

3 × 25 = ☐

3 × 20 = 60
3 × 5 = 15
60 + 15 = ___

46 × 2 = ☐

40 × 2 = ___
6 × 2 = ___
___ + ___ = ___

4 × 17 = ☐

4 × 10 = ___
4 × 7 = ___
___ + ___ = ___

2 × 38 = ☐

2 × 30 = ___
2 × 8 = ___
___ + ___ = ___

23 × 4 = ☐

20 × 4 = ___
3 × 4 = ___
___ + ___ = ___

3 × 34 = ☐

3 × 30 = ___
3 × 4 = ___
___ + ___ = ___

Arrange the digit cards into the calculation below.

3 3 5 6

☐ × ☐☐

How many different totals can you make? ☐

What is the greatest total you can make? ☐

What is the smallest? ☐

What do you notice? Does this always happen? ___

___

___

Calculate

3 × 25 = 75

3 × 20 = 60
3 × 5 = 15
60 + 15 = 75

46 × 2 = 92

40 × 2 = 80
6 × 2 = 12
80 + 12 = 92

4 × 17 = 68

4 × 10 = 40
4 × 7 = 28
40 + 28 = 68

2 × 38 = 76

2 × 30 = 60
2 × 8 = 16
60 + 16 = 76

23 × 4 = 92

20 × 4 = 80
3 × 4 = 12
80 + 12 = 92

3 × 34 = 102

3 × 30 = 90
3 × 4 = 12
90 + 12 = 102

Arrange the digit cards into the calculation below.

3 3 5 6

□ × □ □

3 × 35 = 105
3 × 36 = 108
3 × 53 = 159
3 × 56 = 168
3 × 63 = 189
3 × 65 = 195

5 × 33 = 165
5 × 36 = 180
5 × 63 = 315
6 × 33 = 198
6 × 35 = 210
6 × 53 = 318

How many different totals can you make? 12

What is the greatest total you can make? 318

What is the smallest? 105

What do you notice? Does this always happen? Placing the cards in ascending order gives the smallest possible total. Placing the cards in ascending order gives the greatest total.

Calculate

2 × 47 = ☐

35 × 3 = ☐

4 × 19 = ☐

17 × 3 = ☐

4 × 26 = ☐

39 × 2 = ☐

Use 3 digit cards to complete the calculation below.

☐☐ × ☐ = 96

Which 3 cards could you use?

Can you find more than one solution?

Use 3 digit cards to complete the calculation below.

☐☐ × ☐ = 105

Which 3 cards could you use?

Can you find more than one solution?

Calculate

2 × 47 = 94

2 × 40 = 80
2 × 7 = 14
80 + 14 = 94

35 × 3 = 105

30 × 3 = 90
5 × 3 = 15
90 + 15 = 105

4 × 19 = 76

4 × 10 = 40
4 × 9 = 36
40 + 36 = 76

17 × 3 = 51

10 × 3 = 30
7 × 3 = 21
30 + 21 = 51

4 × 26 = 104

4 × 20 = 80
4 × 6 = 24
80 + 24 = 104

39 × 2 = 78

30 × 2 = 60
9 × 2 = 18
60 + 18 = 78

Use 3 digit cards to complete the calculation below.

☐☐ × ☐ = 96

Which 3 cards could you use?

Can you find more than one solution?

Possible answers:
1 × 96 = 96
2 × 48 = 96
3 × 32 = 96
4 × 24 = 96
6 × 16 = 96
8 × 12 = 96

Use 3 digit cards to complete the calculation below.

☐☐ × ☐ = 105

Which 3 cards could you use?

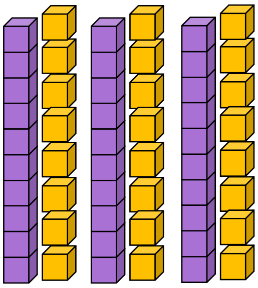
Can you find more than one solution?

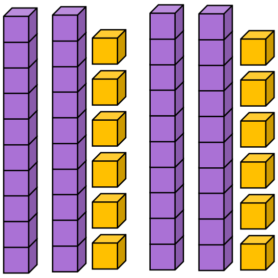
Possible answers:
1 × 105 = 105
3 × 35 = 105
5 × 21 = 105
7 × 15 = 105

Multiply 2 digits by 1 digit with exchanges activity ☆ Reasoning & Problem Solving 3

TRUE or FALSE?

18 × 3 = 54



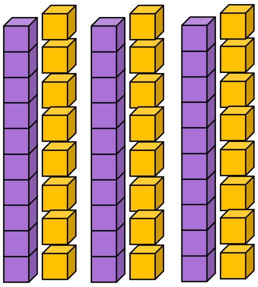


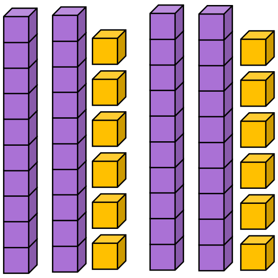
26 × 2 = 42

Multiply 2 digits by 1 digit with exchanges activity ☆ Reasoning & Problem Solving 3

TRUE or FALSE?

18 × 3 = 54





26 × 2 = 42

Multiply 2 digits by 1 digit with exchanges activity ☆ Reasoning & Problem Solving 3

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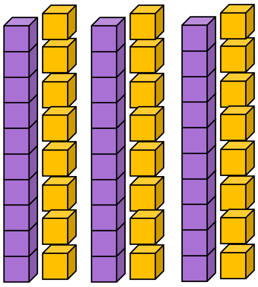

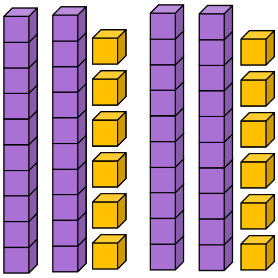

26 × 2 = 42

Multiply 2 digits by 1 digit with exchanges activity ☆ Reasoning & Problem Solving 3

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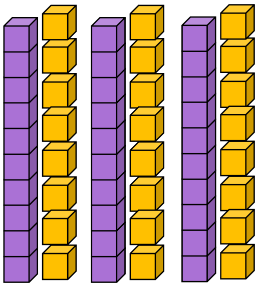
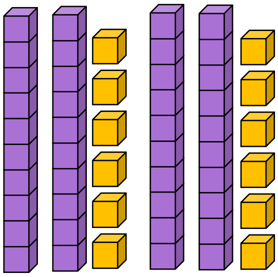
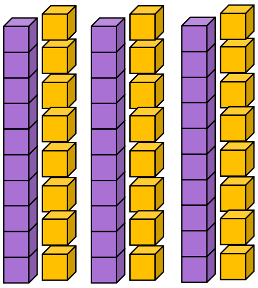




26 × 2 = 42

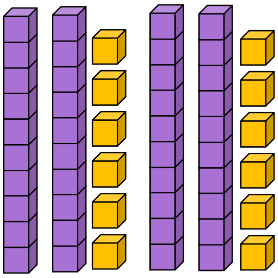
Answers

TRUE or FALSE?



18 × 3 = 54

True



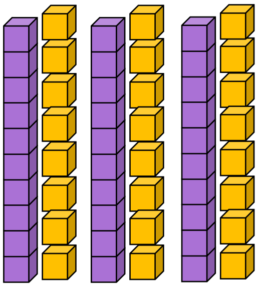
26 × 2 = 42

False, it equals 52

Multiply 2 digits by 1 digit
with exchanges activity
Reasoning & Problem Solving 3

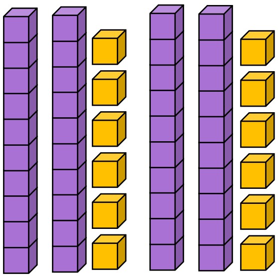
Answers

TRUE or FALSE?



18 × 3 = 54

True



26 × 2 = 42

False, it equals 52

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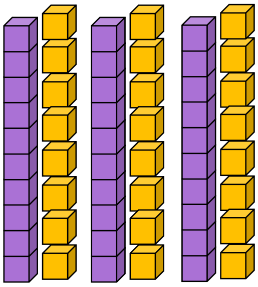
Multiply 2 digits by 1 digit
with exchanges activity
Reasoning & Problem Solving 3

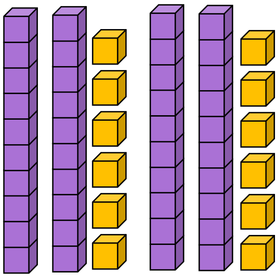
Answers

TRUE or FALSE?



18 × 3 = 54

True



26 × 2 = 42

False, it equals 52

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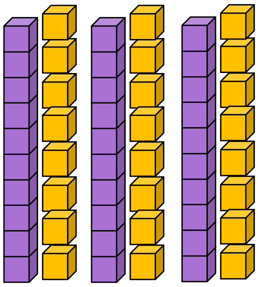
Multiply 2 digits by 1 digit
with exchanges activity
Reasoning & Problem Solving 3

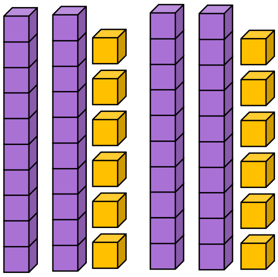
Answers

TRUE or FALSE?



18 × 3 = 54

True



26 × 2 = 42

False, it equals 52

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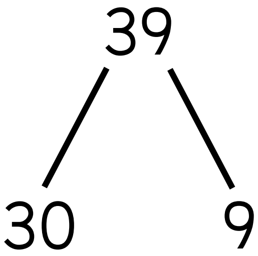
Multiply 2 digits by 1 digit
with exchanges activity ☆☆

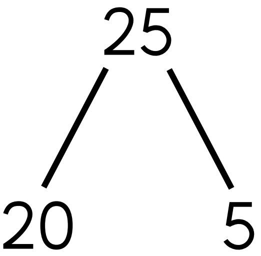
Reasoning & Problem Solving 3

TRUE or FALSE?

2 × 39 = 68



2 × 30 = 60
2 × 9 = 18
60 + 8 = 68



6 × 25 = 150

6 × 20 = 120
6 × 5 = 30
120 + 30 = 150

Multiply 2 digits by 1 digit
with exchanges activity ☆☆

Reasoning & Problem Solving 3

TRUE or FALSE?

2 × 39 = 68

2 × 30 = 60
2 × 9 = 18
60 + 8 = 68

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6 × 20 = 120
6 × 5 = 30
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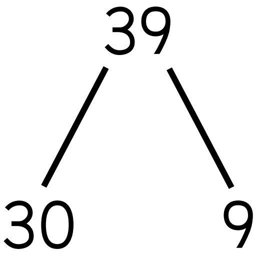

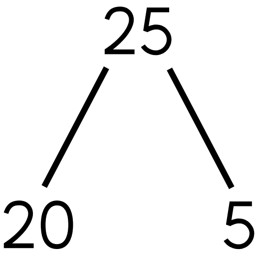

Multiply 2 digits by 1 digit
with exchanges activity ☆☆

Reasoning & Problem Solving 3

TRUE or FALSE?

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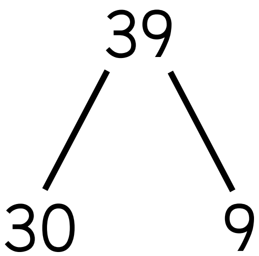

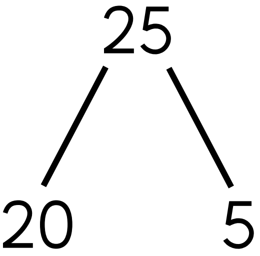

Multiply 2 digits by 1 digit
with exchanges activity ☆☆

Reasoning & Problem Solving 3

TRUE or FALSE?

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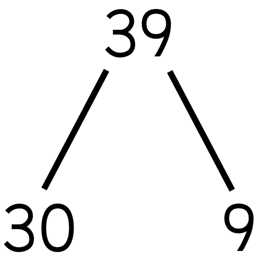
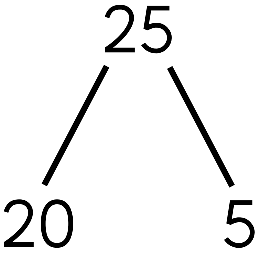


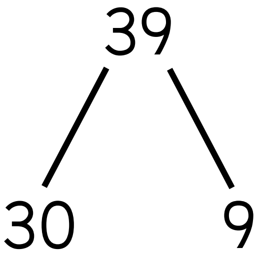


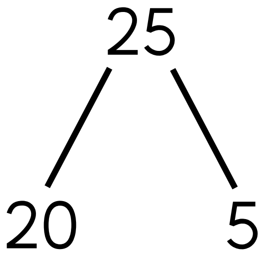
Answers

TRUE or FALSE?

2 × 39 = 68

False, it equals 78
2 × 30 = 60
2 × 9 = 18
60 + 8 = 68





6 × 25 = 150

True
6 × 20 = 120
6 × 5 = 30
120 + 30 = 150

Multiply 2 digits by 1 digit with exchanges activity ☆☆ Reasoning & Problem Solving 3
Answers
TRUE or FALSE?
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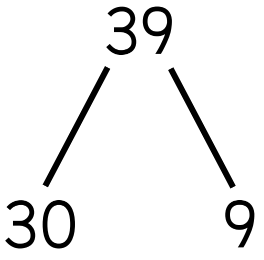
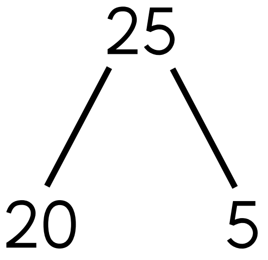
6 × 25 = 150
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Multiply 2 digits by 1 digit with exchanges activity ☆☆ Reasoning & Problem Solving 3
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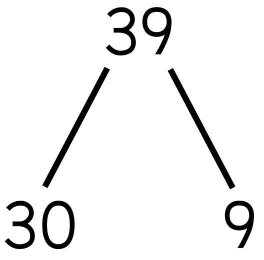
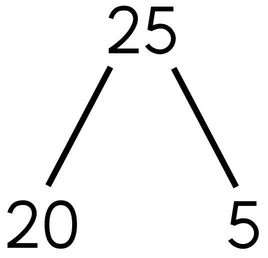
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6 × 5 = 30
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Multiply 2 digits by 1 digit with exchanges activity ☆☆ Reasoning & Problem Solving 3
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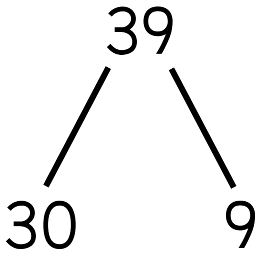
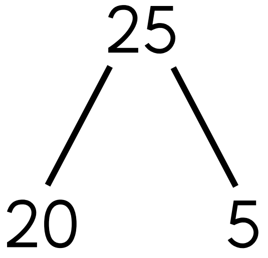
60 + 8 = 68


6 × 25 = 150
True
6 × 20 = 120
6 × 5 = 30
120 + 30 = 150
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TRUE or FALSE?

2 × 37 = 37 × 2 = 64

18 × 4 = 4 × 18 = 72

7 × 12 = 12 × 7 = 74

24 × 5 = 5 × 24 = 120

Multiply 2 digits by 1 digit with exchanges activity ☆☆☆ Reasoning & Problem Solving 3

TRUE or FALSE?

2 × 37 = 37 × 2 = 64

18 × 4 = 4 × 18 = 72

7 × 12 = 12 × 7 = 74

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Multiply 2 digits by 1 digit with exchanges activity ☆☆☆ Reasoning & Problem Solving 3

TRUE or FALSE?

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Multiply 2 digits by 1 digit with exchanges activity ☆☆☆ Reasoning & Problem Solving 3

TRUE or FALSE?

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7 × 12 = 12 × 7 = 74

24 × 5 = 5 × 24 = 120

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Answers

TRUE or FALSE?

2 × 37 = 37 × 2 = 64

False, it equals 74

18 × 4 = 4 × 18 = 72

True

7 × 12 = 12 × 7 = 74

False, it equals 84

24 × 5 = 5 × 24 = 120

True

Multiply 2 digits by 1 digit with exchanges activity ☆☆☆ Reasoning & Problem Solving 3

Answers

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Multiply 2 digits by 1 digit with exchanges activity ☆☆☆ Reasoning & Problem Solving 3

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Multiply 2 digits by 1 digit with exchanges activity ☆☆☆ Reasoning & Problem Solving 3

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