Properties of Multiplication: Turnarounds

Write the turnaround fact: the same two numbers the other way round.

$4 \times 9 = 36$

$\square \times \square = \square$

$7 \times 6 = 42$

$\square \times \square = \square$

$6 \times 4 = 24$

$\square \times \square = \square$

$9 \times 2 = 18$

$\square \times \square = \square$

$5 \times 8 = 40$

$\square \times \square = \square$

$6 \times 9 = 54$

$\square \times \square = \square$

$8 \times 7 = 56$

$\square \times \square = \square$

$3 \times 7 = 21$

$\square \times \square = \square$

$2 \times 5 = 10$

$\square \times \square = \square$

$10 \times 3 = 30$

$\square \times \square = \square$

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$4 \times 9 = 36$

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$5 \times 8 = 40$

$\square \times \square = \square$

Properties of Multiplication: Break Apart

Write the missing number. Multiply each part, then add the two answers.

$7 \times 8 = 7 \times 5 + 7 \times \square = \square + \square = \square$

$7 \times 6 = 7 \times 5 + 7 \times \square = \square + \square = \square$

$8 \times 9 = 8 \times 5 + 8 \times \square = \square + \square = \square$

$3 \times 9 = 3 \times 5 + 3 \times \square = \square + \square = \square$

$9 \times 7 = 9 \times 5 + 9 \times \square = \square + \square = \square$

$4 \times 7 = 4 \times 5 + 4 \times \square = \square + \square = \square$

$6 \times 8 = 6 \times 5 + 6 \times \square = \square + \square = \square$

$4 \times 6 = 4 \times 5 + 4 \times \square = \square + \square = \square$

Properties of Multiplication: Break Apart

Write the missing number. Multiply each part, then add the two answers.

$6 \times 8 = 6 \times 5 + 6 \times \square = \square + \square = \square$

$4 \times 6 = 4 \times 5 + 4 \times \square = \square + \square = \square$

$8 \times 9 = 8 \times 5 + 8 \times \square = \square + \square = \square$

$7 \times 6 = 7 \times 5 + 7 \times \square = \square + \square = \square$

$7 \times 8 = 7 \times 5 + 7 \times \square = \square + \square = \square$

$4 \times 7 = 4 \times 5 + 4 \times \square = \square + \square = \square$

$3 \times 9 = 3 \times 5 + 3 \times \square = \square + \square = \square$

$9 \times 7 = 9 \times 5 + 9 \times \square = \square + \square = \square$

Properties of Multiplication: Easy Pair First

Multiply the two numbers in ( ) first. Do it both ways.

$(5 \times 2) \times 8 = \square \times 8 = \square$

$5 \times (2 \times 8) = 5 \times \square = \square$

$(2 \times 2) \times 9 = \square \times 9 = \square$

$2 \times (2 \times 9) = 2 \times \square = \square$

$(3 \times 5) \times 2 = \square \times 2 = \square$

$3 \times (5 \times 2) = 3 \times \square = \square$

$(7 \times 2) \times 5 = \square \times 5 = \square$

$7 \times (2 \times 5) = 7 \times \square = \square$

$(3 \times 3) \times 2 = \square \times 2 = \square$

$3 \times (3 \times 2) = 3 \times \square = \square$

$(2 \times 3) \times 4 = \square \times 4 = \square$

$2 \times (3 \times 4) = 2 \times \square = \square$

Properties of Multiplication: Easy Pair First

Multiply the two numbers in ( ) first. Do it both ways.

$(5 \times 2) \times 8 = \square \times 8 = \square$

$5 \times (2 \times 8) = 5 \times \square = \square$

$(2 \times 3) \times 4 = \square \times 4 = \square$

$2 \times (3 \times 4) = 2 \times \square = \square$

$(2 \times 2) \times 9 = \square \times 9 = \square$

$2 \times (2 \times 9) = 2 \times \square = \square$

$(3 \times 5) \times 2 = \square \times 2 = \square$

$3 \times (5 \times 2) = 3 \times \square = \square$

$(3 \times 3) \times 2 = \square \times 2 = \square$

$3 \times (3 \times 2) = 3 \times \square = \square$

$(7 \times 2) \times 5 = \square \times 5 = \square$

$7 \times (2 \times 5) = 7 \times \square = \square$

Properties of Multiplication: Times One, Times Zero

Look at the sign. Then write the answer.

$1 \times 6 =$ ☐

$5 \times 0 =$ ☐

$0 \times 9 =$ ☐

$1 \times 3 =$ ☐

$6 + 0 =$ ☐

$7 \times 1 =$ ☐

$2 \times 0 =$ ☐

$8 \times 0 =$ ☐

$0 \times 4 =$ ☐

$8 + 0 =$ ☐

$2 + 0 =$ ☐

$1 \times 9 =$ ☐

$4 \times 1 =$ ☐

$0 \times 6 =$ ☐

$9 + 0 =$ ☐

$10 \times 1 =$ ☐

Properties of Multiplication: Times One, Times Zero

Look at the sign. Then write the answer.

$8 + 0 =$ ☐

$4 \times 1 =$ ☐

$0 \times 6 =$ ☐

$8 \times 0 =$ ☐

$0 \times 4 =$ ☐

$1 \times 3 =$ ☐

$10 \times 1 =$ ☐

$7 \times 1 =$ ☐

$2 \times 0 =$ ☐

$1 \times 9 =$ ☐

$1 \times 6 =$ ☐

$2 + 0 =$ ☐

$5 \times 0 =$ ☐

$9 + 0 =$ ☐

$0 \times 9 =$ ☐

$6 + 0 =$ ☐

Properties of Multiplication: Answer Key, Pages 1 to 4

For the grown-up. Each red number sits where your child writes it.

Page 1

4 × 9 = 36
9 × 4 = 36

7 × 6 = 42
6 × 7 = 42

6 × 4 = 24
4 × 6 = 24

9 × 2 = 18
2 × 9 = 18

5 × 8 = 40
8 × 5 = 40

6 × 9 = 54
9 × 6 = 54

8 × 7 = 56
7 × 8 = 56

3 × 7 = 21
7 × 3 = 21

2 × 5 = 10
5 × 2 = 10

10 × 3 = 30
3 × 10 = 30

Page 2

7 × 6 = 42
6 × 7 = 42

9 × 2 = 18
2 × 9 = 18

6 × 4 = 24
4 × 6 = 24

10 × 3 = 30
3 × 10 = 30

2 × 5 = 10
5 × 2 = 10

3 × 7 = 21
7 × 3 = 21

8 × 7 = 56
7 × 8 = 56

6 × 9 = 54
9 × 6 = 54

4 × 9 = 36
9 × 4 = 36

5 × 8 = 40
8 × 5 = 40

Page 3

7 × 8 = 7 × 5 + 7 × 3 = 35 + 21 = 56

7 × 6 = 7 × 5 + 7 × 1 = 35 + 7 = 42

8 × 9 = 8 × 5 + 8 × 4 = 40 + 32 = 72

3 × 9 = 3 × 5 + 3 × 4 = 15 + 12 = 27

9 × 7 = 9 × 5 + 9 × 2 = 45 + 18 = 63

4 × 7 = 4 × 5 + 4 × 2 = 20 + 8 = 28

6 × 8 = 6 × 5 + 6 × 3 = 30 + 18 = 48

4 × 6 = 4 × 5 + 4 × 1 = 20 + 4 = 24

Page 4

6 × 8 = 6 × 5 + 6 × 3 = 30 + 18 = 48

4 × 6 = 4 × 5 + 4 × 1 = 20 + 4 = 24

8 × 9 = 8 × 5 + 8 × 4 = 40 + 32 = 72

7 × 6 = 7 × 5 + 7 × 1 = 35 + 7 = 42

7 × 8 = 7 × 5 + 7 × 3 = 35 + 21 = 56

4 × 7 = 4 × 5 + 4 × 2 = 20 + 8 = 28

3 × 9 = 3 × 5 + 3 × 4 = 15 + 12 = 27

9 × 7 = 9 × 5 + 9 × 2 = 45 + 18 = 63

Properties of Multiplication: Answer Key, Pages 5 to 8

For the grown-up. Each red number sits where your child writes it.

Page 5

$(5 \times 2) \times 8 = \boxed{10} \times 8 = \boxed{80}$
$5 \times (2 \times 8) = 5 \times \boxed{16} = \boxed{80}$

$(2 \times 2) \times 9 = \boxed{4} \times 9 = \boxed{36}$
$2 \times (2 \times 9) = 2 \times \boxed{18} = \boxed{36}$

$(3 \times 5) \times 2 = \boxed{15} \times 2 = \boxed{30}$
$3 \times (5 \times 2) = 3 \times \boxed{10} = \boxed{30}$

$(7 \times 2) \times 5 = \boxed{14} \times 5 = \boxed{70}$
$7 \times (2 \times 5) = 7 \times \boxed{10} = \boxed{70}$

$(3 \times 3) \times 2 = \boxed{9} \times 2 = \boxed{18}$
$3 \times (3 \times 2) = 3 \times \boxed{6} = \boxed{18}$

$(2 \times 3) \times 4 = \boxed{6} \times 4 = \boxed{24}$
$2 \times (3 \times 4) = 2 \times \boxed{12} = \boxed{24}$

Page 6

$(5 \times 2) \times 8 = \boxed{10} \times 8 = \boxed{80}$
$5 \times (2 \times 8) = 5 \times \boxed{16} = \boxed{80}$

$(2 \times 3) \times 4 = \boxed{6} \times 4 = \boxed{24}$
$2 \times (3 \times 4) = 2 \times \boxed{12} = \boxed{24}$

$(2 \times 2) \times 9 = \boxed{4} \times 9 = \boxed{36}$
$2 \times (2 \times 9) = 2 \times \boxed{18} = \boxed{36}$

$(3 \times 5) \times 2 = \boxed{15} \times 2 = \boxed{30}$
$3 \times (5 \times 2) = 3 \times \boxed{10} = \boxed{30}$

$(3 \times 3) \times 2 = \boxed{9} \times 2 = \boxed{18}$
$3 \times (3 \times 2) = 3 \times \boxed{6} = \boxed{18}$

$(7 \times 2) \times 5 = \boxed{14} \times 5 = \boxed{70}$
$7 \times (2 \times 5) = 7 \times \boxed{10} = \boxed{70}$

Page 7

$1 \times 6 = \boxed{6}$
$0 \times 9 = \boxed{0}$
$6 + 0 = \boxed{6}$
$2 \times 0 = \boxed{0}$
$0 \times 4 = \boxed{0}$
$2 + 0 = \boxed{2}$
$4 \times 1 = \boxed{4}$
$9 + 0 = \boxed{9}$

$5 \times 0 = \boxed{0}$
$1 \times 3 = \boxed{3}$
$7 \times 1 = \boxed{7}$
$8 \times 0 = \boxed{0}$
$8 + 0 = \boxed{8}$
$1 \times 9 = \boxed{9}$
$0 \times 6 = \boxed{0}$
$10 \times 1 = \boxed{10}$

Page 8

$8 + 0 = \boxed{8}$
$0 \times 6 = \boxed{0}$
$0 \times 4 = \boxed{0}$
$10 \times 1 = \boxed{10}$
$2 \times 0 = \boxed{0}$
$1 \times 6 = \boxed{6}$
$5 \times 0 = \boxed{0}$
$0 \times 9 = \boxed{0}$

$4 \times 1 = \boxed{4}$
$8 \times 0 = \boxed{0}$
$1 \times 3 = \boxed{3}$
$7 \times 1 = \boxed{7}$
$1 \times 9 = \boxed{9}$
$2 + 0 = \boxed{2}$
$9 + 0 = \boxed{9}$
$6 + 0 = \boxed{6}$

For Grown-Ups: How to Use These Worksheets

For third grade, while your child learns the facts. Each activity has two pages, the same facts in a new order.

Why use it

Third graders use the properties of multiplication to learn their facts before they learn the names, and the Common Core says they “need not use formal terms for these properties” (3.OA.B.5). The properties cut the facts to learn, since 6 × 4 and 4 × 6 are one fact, and turn a hard fact into easy ones.

What it is good for

- Turnarounds: 6 × 4 = 24, so 4 × 6 = 24.
- Break apart: 7 × 8 as 7 × 5 + 7 × 3, with the split printed.
- Easy pair first, both groupings, and times one and times zero beside plus 0.

How to use it

1. Do one activity a sitting, a few minutes at a time.
2. Show it with objects first: equal groups in bowls, or rows of coins, then the page.
3. On a turnaround, ask for the answer before your child works it out again.
4. On the last pages, read the sign aloud before each answer.
5. Check with the answer key. Each red number sits where your child writes it.

> **Try saying:** “6 × 4 is 24. So what is 4 × 6?”

Tip: Adding 0 keeps the number, and multiplying by 0 leaves nothing. If 7 × 0 = 7 appears, put out 7 empty plates.