

Pair It Up

Use multiplication to spot factor pairs.

4.PAR.3.3 "Find factor pairs in the range 1-100 and find multiples of single-digit numbers up to 100."

NAME _____

DATE _____

FACTOR PAIR

Two whole numbers are a factor pair when their product equals the number named.

$5 \times 11 = 55$, so 5 and 11 are a factor pair of 55.

NOT A FACTOR PAIR

A pair is NO PAIR when multiplying the two numbers does not make the number named.

$14 \times 5 = 70$, not 80, so 14 and 5 are not a factor pair of 80.

1 SORT _____ 8 items

For Part 1, circle FACTOR or NO PAIR for each item; for Part 2, choose two items and explain how multiplication proves each choice.

1. 2 and 8 for 16

FACTOR

NO PAIR

2. 3 and 10 for 30

FACTOR

NO PAIR

3. 4 and 12 for 40

FACTOR

NO PAIR

4. 7 and 8 for 56

FACTOR

NO PAIR

5. 3 and 9 for 24

FACTOR

NO PAIR

6. 6 and 6 for 42

FACTOR

NO PAIR

7. 2 and 15 for 32

FACTOR

NO PAIR

8. 7 and 13 for 91

FACTOR

NO PAIR

2 PROVE IT Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ HOW I KNEW _____

ITEM # _____ HOW I KNEW _____

3 MAKE YOUR OWN One of each

Write one new FACTOR example for a number from 1 to 100. Then write one new NO PAIR example for a number from 1 to 100.

FACTOR _____

NO PAIR _____

CHALLENGE

Find every factor pair of 48.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	2 and 8 for 16	FACTOR	$2 \times 8 = 16$.
2	3 and 10 for 30	FACTOR	$3 \times 10 = 30$.
3	4 and 12 for 40	NO PAIR	$4 \times 12 = 48$, not 40.
4	7 and 8 for 56	FACTOR	$7 \times 8 = 56$.
5	3 and 9 for 24	NO PAIR	$3 \times 9 = 27$, not 24.
6	6 and 6 for 42	NO PAIR	$6 \times 6 = 36$, not 42.
7	2 and 15 for 32	NO PAIR	$2 \times 15 = 30$, not 32.
8	7 and 13 for 91	FACTOR	$7 \times 13 = 91$.

PART 2 • PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 • MAKE YOUR OWN (SAMPLE ANSWERS)

- **FACTOR:** $6 \times 12 = 72$, so 6 and 12 are a factor pair of 72.
- **NO PAIR:** $8 \times 10 = 80$, so 8 and 10 are not a factor pair of 90.

Challenge: 1×48 , 2×24 , 3×16 , 4×12 , and 6×8 .

Accept equivalent multiplication equations or words that correctly show the product for the two Part 2 choices. For the challenge, students may list factor pairs in either order.