Pair Detective

Decide which number pairs make the target number.

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

A factor pair has two whole numbers that multiply to make the target number.

2 and 11 for 22, because 2 × 11 = 22.

NOT A FACTOR PAIR

These two numbers do not multiply to make the target number.

11 and 12 for 100, because 11 × 12 = 132, not 100.

1 SORT

8 items

Circle PAIRS or NOT PAIR for each statement, then choose two statements and explain by writing the multiplication that proves each choice.

1. 3 and 8 for 24 — PAIRS / NOT PAIR

2. 5 and 6 for 28 — PAIRS / NOT PAIR

3. 4 and 7 for 30 — PAIRS / NOT PAIR

4. 4 and 9 for 36 — PAIRS / NOT PAIR

5. 5 and 7 for 35 — PAIRS / NOT PAIR

6. 6 and 8 for 48 — PAIRS / NOT PAIR

7. 7 and 8 for 54 — PAIRS / NOT PAIR

8. 9 and 10 for 90 — PAIRS / NOT 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-pair statement and one new not-a-factor-pair statement. Keep each target number from 1 to 100.

PAIRS

NOT PAIR

CHALLENGE

Write all the factor pairs for 48.

ANSWER KEY # Pair Detective

GRADE 4 · 4.PAR.3.3

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	3 and 8 for 24	**PAIRS**	3 × 8 = 24.
2	5 and 6 for 28	**NOT PAIR**	5 × 6 = 30, not 28.
3	4 and 7 for 30	**NOT PAIR**	4 × 7 = 28, not 30.
4	4 and 9 for 36	**PAIRS**	4 × 9 = 36.
5	5 and 7 for 35	**PAIRS**	5 × 7 = 35.
6	6 and 8 for 48	**PAIRS**	6 × 8 = 48.
7	7 and 8 for 54	**NOT PAIR**	7 × 8 = 56, not 54.
8	9 and 10 for 90	**PAIRS**	9 × 10 = 90.

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)

- **PAIRS**: 7 and 13 for 91
- **NOT PAIR**: 8 and 12 for 95

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

For Part 2, accept an equation that shows the two numbers multiply to the target or shows a different product. The Part 3 not-a-factor-pair sample works because 8 × 12 = 96, not 95.