Tile Count Detectives

Count the tiles, then check the claim.

3.GSR.7.2 "Determine the area of rectangles (or shapes composed of rectangles) presented in relevant problems by tiling and counting."

NAME _____ DATE _____

COUNT MATCHES

Choose MATCHES when the area claim equals the number of square tiles. Count every tile.

This figure has 9 square tiles, so a claim of 9 square units matches.



COUNT DIFFERS

Choose DIFFERS when the area claim does not equal the number of square tiles. Count the tiles and compare.

This figure has 21 square tiles, so a claim of 20 square units differs.



1 SORT

8 items

Circle MATCHES or DIFFERS for each figure, then choose two figures and explain how you counted the tiles and compared the count to each claim.

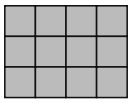
1. 

Figure 1, claim: 12 square units.

MATCHES DIFFERS

2. 

Figure 2, claim: 12 square units.

MATCHES DIFFERS

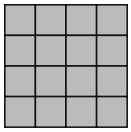
3. 

Figure 3, claim: 16 square units.

MATCHES DIFFERS

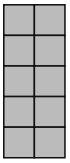
4. 

Figure 4, claim: 10 square units.

MATCHES DIFFERS

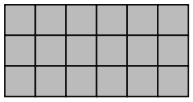
5. 

Figure 5, claim: 15 square units.

MATCHES DIFFERS

6. 

Figure 6, claim: 8 square units.

MATCHES DIFFERS

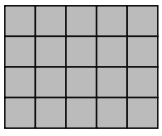
7. 

Figure 7, claim: 18 square units.

MATCHES DIFFERS

8. 

Figure 8, claim: 14 square units.

MATCHES DIFFERS

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

Draw one new MATCHES figure and one new DIFFERS figure. Write an area claim beside each figure.

MATCHES

DIFFERS

CHALLENGE

Draw a tiled shape made from a 2-by-4 rectangle and a 3-by-2 rectangle that touch but do not overlap. What is the total area?

ANSWER KEY

Tile Count Detectives

GRADE 3 · 3.GSR.7.2

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1, claim: 12 square units. (array)	**MATCHES**	3 rows of 4 tiles equals 12 square units.
2	Figure 2, claim: 12 square units. (array)	**DIFFERS**	2 rows of 5 tiles equals 10 square units, not 12.
3	Figure 3, claim: 16 square units. (array)	**MATCHES**	4 rows of 4 tiles equals 16 square units.
4	Figure 4, claim: 10 square units. (array)	**MATCHES**	5 rows of 2 tiles equals 10 square units.
5	Figure 5, claim: 15 square units. (array)	**DIFFERS**	3 rows of 6 tiles equals 18 square units, not 15.
6	Figure 6, claim: 8 square units. (array)	**MATCHES**	1 row of 8 tiles equals 8 square units.
7	Figure 7, claim: 18 square units. (array)	**DIFFERS**	4 rows of 5 tiles equals 20 square units, not 18.
8	Figure 8, claim: 14 square units. (array)	**MATCHES**	2 rows of 7 tiles equals 14 square units.

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)

- **MATCHES**: Draw a 3-by-5 tiled rectangle and write, “Claim: 15 square units.”
- **DIFFERS**: Draw a 2-by-9 tiled rectangle and write, “Claim: 17 square units.”

Challenge: Place the 3-by-2 rectangle below the left side of the 2-by-4 rectangle. 8 + 6 = 14 square units.

Sort key: 1 MATCHES, 2 DIFFERS, 3 MATCHES, 4 MATCHES, 5 DIFFERS, 6 MATCHES, 7 DIFFERS, 8 MATCHES. In Part 2, students should state the tile count and whether it matches or differs from the claim.