

5.NF Reasoning about Multiplication

Task

Your classmate Ellen says,

When you multiply by a number, you will always get a bigger answer. Look, I can show you.

Start with 9.

Multiply by 5. $9 \times 5 = 45$

The answer is 45, and $45 > 9$

45 is bigger than 9.

It even works for fractions.

Start with $\frac{1}{2}$.

Multiply by 4. $\frac{1}{2} \times 4 = 2$

The answer is 2, and $2 > \frac{1}{2}$

2 is bigger than $\frac{1}{2}$.

Ellen's calculations are correct, but her rule does not always work.

For what numbers will Ellen's rule work? For what numbers will Ellen's rule not work? Explain and give examples.



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