

Illustrative Mathematics

5.NF Calculator Trouble

Alignments to Content Standards

- [Alignment: 5.NF.B.5](#)

Tags

- *This task is not yet tagged.*

Luke had a calculator that will only display numbers less than or equal to 999,999,999. Which of the following products will his calculator display? Explain.

a. $792 \times 999,999,999$

b. $\frac{1}{2} \times 999,999,999$

c. $\frac{15}{4} \times 999,999,999$

d. $0.67 \times 999,999,999$

Commentary

Even though students can solve this problem by multiplying, it is unlikely they will. Here it is much easier to answer the question if you can think of multiplying a number by a factor as scaling the number.

Solutions

Solution: Multiplication as scaling

Since multiplying a positive number by a factor greater than 1 always results in a larger number, the first and third products will be too large to display.

Since multiplying a positive number by a factor less than 1 (but greater than zero) always results in a smaller number, the second and fourth products will be displayed on his calculator.



5.NF Calculator Trouble is licensed by [Illustrative Mathematics](#) under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#)