



Order of operations and grouping symbols

GRADE 5 MATH

Name _____

Date _____

Show the value of each part before you combine them. One skill: **order of operations**.

WORKED EXAMPLE

An expression is a **structure**, not a list of instructions in written order. $\times$ and $\div$ are **one rank**, done left to right; $+$ and $-$ are one rank, done left to right. Grouping symbols say **this is one number**, so evaluate the **innermost** first — the outer bracket is not a number until the inner one is. So $3 + 4 \times 5 = 3 + 20 = 23$, and $20 - 6 + 3 = 17$, not 11.

1. Evaluate $3 + 4 \times 5$. Then evaluate $(3 + 4) \times 5$. Explain what the brackets changed.

APPLICATION

Show your thinking

Answer

2. Evaluate $20 - 6 + 3$

FLUENCY

Show your thinking

Answer

3. Evaluate $24 \div 6 \times 2$

FLUENCY

Show your thinking

Answer

4. Rio says $20 - 6 + 3 = 11$, because in PEMDAS the A comes before the S. Show that he is wrong, and say what is actually true about $+$ and $-$.

REASONING

Show your thinking

Answer

5. Evaluate $\{12 + [3 \times (8 - 6)]\} \div 2$. Say which brackets you did first and why they had to be first.

REASONING

Show your thinking

Answer