

Simplify each using the Order of Operations. Show your work!

NO CALCULATOR

1. $15 - 8 + 4 - 1 + 3$

2. $24 \div 6 \cdot 4 \div 2 \cdot 3$

3. $5 - 24 \div 6 \cdot 2 + 1$

4. $5(14 - 2 \cdot 3^2 + 1)^2$

5. $15 + 5(22 - 36 \div (4 - 1)^2 \cdot 3)$

ANSWERS

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NO CALCULATOR

1. $15 - 8 + 4 - 1 + 3$

$$\begin{array}{r} 15 - 8 + 4 - 1 + 3 \\ \swarrow \quad \searrow \\ 7 \quad + 4 \\ \swarrow \quad \searrow \\ 11 \quad - 1 \\ \swarrow \quad \searrow \\ 10 \quad + 3 \\ \hline 13 \end{array}$$

2. $24 \div 6 \cdot 4 \div 2 \cdot 3$

$$\begin{array}{r} 24 \div 6 \cdot 4 \div 2 \cdot 3 \\ \swarrow \quad \searrow \\ 4 \cdot 4 \\ \swarrow \quad \searrow \\ 16 \div 2 \\ \swarrow \quad \searrow \\ 8 \cdot 3 \\ \hline 24 \end{array}$$

3. $5 - 24 \div 6 \cdot 2 + 1$

$$\begin{array}{r} 5 - 24 \div 6 \cdot 2 + 1 \\ \swarrow \quad \searrow \\ 5 - 4 \cdot 2 \\ \swarrow \quad \searrow \\ 5 - 8 + 1 \\ \swarrow \quad \searrow \\ -3 + 1 \\ \hline -2 \end{array}$$

4. $5(14 - 2 \cdot 3^2 + 1)^2$

$$\begin{array}{r} 5(14 - 2 \cdot 3^2 + 1)^2 \\ \swarrow \quad \searrow \\ 2 \cdot 9 \\ \swarrow \quad \searrow \\ 14 - 18 \\ \swarrow \quad \searrow \\ -4 + 1 \\ \hline -3 \\ 5(-3)^2 = 5(9) = 45 \end{array}$$

5. $15 + 5(22 - 36 \div (4 - 1)^2 \cdot 3)$

$$\begin{array}{r} 15 + 5(22 - 36 \div (4 - 1)^2 \cdot 3) \\ \swarrow \quad \searrow \\ 3^2 \\ \swarrow \quad \searrow \\ 36 \div 9 \\ \swarrow \quad \searrow \\ 4 \cdot 3 \\ \swarrow \quad \searrow \\ 22 - 12 \\ \hline 10 \\ 5(10) \\ 15 + 50 = 65 \end{array}$$