

Order of Operations

Number & Operations · Grade 5

Score: _____ / 10

★ Hard · 10 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. $3 \times [4 + 2 \times (6 - 1)] = \underline{\hspace{2cm}}$

Answer: _____

2. $[(8 + 2) \times 3 - 4] \div 2 + 5 = \underline{\hspace{2cm}}$

Answer: _____

3. $50 \div [2 \times (3 + 2)] = \underline{\hspace{2cm}}$

Answer: _____

4. Evaluate: $1 + 2 \times 3 + 4 \times 5 + 6 \times 7$

Answer: _____

5. Insert brackets to make this true:

$$5 + 3 \times 4 - 2 = 30$$

Answer: _____

6. Evaluate: $6 \div 2 \times (1 + 2)$

Answer: _____

7. Find the error: $2 + 3 \times 4 = 20$. Correct it.

Answer: _____

8. A student writes: $3 + 6 \div 3 + 6 \div 3 = 6$.
Is the student correct? Find the actual answer.

Answer: _____

9. Evaluate: $100 - [3 \times (4 + 6) + 5 \times 8]$

Answer: _____

10. Evaluate: $[(20 - 4) \div 2 + 6] \times 3$

Answer: _____

Answer Key

Order of Operations — Hard

1. 42

Inner brackets: $6-1=5$. Inside outer: $2 \times 5=10$, then $4+10=14$. Multiply: $3 \times 14=42$.

2. 18

Inner: $8+2=10$. Then: $10 \times 3=30$, $30-4=26$. Divide: $26 \div 2=13$. Add: $13+5=18$.

3. 5

Inner: $3+2=5$. Outer: $2 \times 5=10$. Divide: $50 \div 10=5$.

4. 69

Multiply first: $2 \times 3=6$, $4 \times 5=20$, $6 \times 7=42$. Then add: $1+6+20+42=69$.

5. **$(5 + 3) \times (4 - 2) = 8 \times 2 = 16$. Try: $5 \times (3 + 4 - 2) = 5 \times 5=25$. Try: $(5+3) \times 4 - 2 = 30$. Yes!**

$(5+3) \times 4 - 2 = 8 \times 4 - 2 = 32 - 2 = 30$. ✓

6. 9

Brackets first: $1+2=3$. Then left to right: $6 \div 2=3$, $3 \times 3=9$.

7. **Error: added before multiplying. Correct: $3 \times 4=12$ first, then $2+12=14$.**

Multiplication comes before addition. $2+3 \times 4 = 2+(3 \times 4) = 2+12 = 14$.

8. **No. Actual: $6 \div 3=2$, $6 \div 3=2$. $3+2+2=7$.**

Perform divisions first: $6 \div 3=2$ (twice). Then: $3+2+2=7$, not 6.

9. 30

Inner: $4+6=10$. Then $3 \times 10=30$, $5 \times 8=40$, $30+40=70$. Finally $100-70=30$.

10. 42

Inner: $20-4=16$, $16 \div 2=8$, $8+6=14$. Multiply: $14 \times 3=42$.