

Order of Operations

Number & Operations · Grade 6

Score: _____ / 10

★ Hard · 10 Questions

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

1. $2^3 + 4 \times (3^2 - 5) \div 2 = \underline{\hspace{2cm}}$

Answer: _____

2. $4^2 - (3 + 1)^2 + 2 \times 5 = \underline{\hspace{2cm}}$

Answer: _____

3. Evaluate: $(2 + 3)^2 \div 5 - 1$

Answer: _____

4. Evaluate: $3 \times 2^3 - (4 + 6) \div 5$

Answer: _____

5. $12 \div 4 + 3 \times [2^2 + (7 - 4)] = ___$

Answer: _____

6. Evaluate: $2^4 - (3 \times 2 + 1)^2 \div 7$

Answer: _____

7. Evaluate: $[(6 + 2) \times 3 + 4^2] \div 4$

Answer: _____

8. Evaluate: $5^2 - 2 \times (3 + 2^3)$

Answer: _____

9. Evaluate: $(3^2 + 1) \times 2 - 4^2$

Answer: _____

10. Evaluate: $6^2 \div (2 + 1) - 2^3$

Answer: _____

Answer Key

Order of Operations — Hard

1. 16

Exponents: $2^3=8$, $3^2=9$. Brackets: $9-5=4$. $\times$ then $\div$: $4 \times 4=16$, $16 \div 2=8$. Add: $8+8=16$.

2. 10

Exponents: $4^2=16$, $(3+1)^2=16$. Multiply: $2 \times 5=10$. Then: $16-16+10=10$.

3. 4

Brackets: $2+3=5$. Exponent: $5^2=25$. Divide: $25 \div 5=5$. Subtract: $5-1=4$.

4. 22

Exponent: $2^3=8$. Brackets: $4+6=10$. Then $\times \div$: $3 \times 8=24$, $10 \div 5=2$. Then $-$: $24-2=22$.

5. 24

Inner brackets: $7-4=3$, $2^2=4$, then $4+3=7$. Outer: $3 \times 7=21$. First: $12 \div 4=3$. Total: $3+21=24$.

6. 9

Exponent: $2^4=16$. Brackets: $3 \times 2+1=7$. Then: $7^2=49$. Divide: $49 \div 7=7$. Then: $16-7=9$.

7. 10

Inner: $6+2=8$, $4^2=16$. Outer: $8 \times 3=24$, $24+16=40$. Divide: $40 \div 4=10$.

8. 3

Exponents: $5^2=25$, $2^3=8$. Brackets: $3+8=11$. Multiply: $2 \times 11=22$. Subtract: $25-22=3$.

9. 4

Exponents: $3^2=9$, $4^2=16$. Brackets: $9+1=10$. Multiply: $10 \times 2=20$. Subtract: $20-16=4$.

10. 4

Brackets: $2+1=3$. Exponents: $6^2=36$, $2^3=8$. Divide: $36 \div 3=12$. Subtract: $12-8=4$.