OPERATIONS WITH INTEGERS

LEVEL 1: The Basics

Q1: Evaluate the expression.

- $5 + 3 \times 2 =$
- $15 \div 3 - 2 =$
- $25 \div 5 + 3 \times 2 =$
- $10 - 6 \div 3 =$
- $6 + 4 \div 2 =$
- $14 + 6 \div 3 - 1 =$
- $(4 + 2) \times 5 =$
- $9 \times (5 - 3) =$
- $(9 - 4) \times 2 + 5 =$
- $12 \div (6 - 2) =$
- $18 \div 6 + 7 =$
- $30 \div (5 + 1) - 3 =$
- $7 \times 3 + 4 =$
- $11 - 2 \times 4 =$
- $8 \times 2 - 10 \div 5 =$
- $20 - 5 \times 2 =$
- $(7 + 1) \div 2 =$
- $1 + 2 \times 3 + 4 =$
- $(8 - 3) + 6 =$
- $5 \times 5 - 10 =$
- $(5 + 6 - 3) \div 2$

Q2: Compare the value of the following expression ($Use\ <, >\ or\ =$):

a) $5^2 - (6^2 - 3 \cdot 9)$ _____ $(3 + 4)^2 - 6(2 + 3)$

b) $18 \div 2 + 4 \times 3$ _____ $6^2 \div 4 + (9 - 1)$

c) $5^2 - 10 + 4$ _____ $7 \times (9 - 5)$

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LEVEL 2: Dive Deeper

Q1: Find the answer to the following

a) $4^2 + 3 \times 5 =$

b) $(10 - 2)^2 \div 4 =$

c) $2 \times (5 + 3) - 12 \div 3 =$

d) $\sqrt{25} + 6 \times 2 - 1 =$

e) $3^3 - (15 \div 5) + 7 =$

f) $100 \div (2 \times 5) + 3^2 =$

g) $(6 + 2) \times (7 - 4) =$

h) $40 - 2 \times 3^2 + 5 =$

i) $(\sqrt{16} + 8) \div 3 - 2 =$

j) $5 \times (9 - 4) \div 5 + 1 =$

k) $2^2 + 3^3 - 5 \times 2 =$

l) $50 \div (2 + 3) \times 4 - 10 =$

m) $(12 - 3) \div 3 + 4^2 =$

n) $7 \times (8 - 6) + 20 \div 4 =$

o) $6^2 - (18 \div 2) + \sqrt{49} =$

p) $3 \times (10 + 5) - 4^2 \div 2 =$

q) $(25 - 5) \div 4 + 3 \times 6 =$

r) $8 + (5 - 2)^3 - 15 \div 3 =$

s) $10 \times (4 + 1) - 2^3 + 7 =$

t) $(\sqrt{100} - 5) \times 3 + 2^2 =$

Q2: Use grouping symbols to make each equation true.

a) $6 + 8 \div 4 \bullet 2 = 7$

b) $5 + 4 \bullet 3 - 1 = 18$

c) $8 - 2 \times 3 = 18$

d) $7 - 4 \times 5 - 1 = 12$

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LEVEL 3: Mastering the Concept

Q1: Evaluate the expression.

- $[(15-3)\div 4+2]\times 5-10=$
- $[(9-3)^2\div 4]+7\times 2-1=$
- $3\times\{20-[(6+2)\div 2]\}+4^2=$
- $2\times\{15+[(10-4)\div 3]\}-\sqrt{81}=$
- $\sqrt{5^2+12^2}+(4^3-20)\div 4=$
- $(2^3+3^2)\times(5-2)-40\div 8=$
- $50-[3\times(7-2)+2^2]+1=$
- $\frac{1}{2}\times[(20-4)\div 2+6]+3^2=$
- $\{100\div(5\times 2)-3\}\times(8-5)^3=$
- $75\div[5\times(6-3)-10]+2\times 5=$

Q2: Insert +, −, ×, or ÷ symbols to make each statement true.

a) $27 \quad 3 \quad 5 \quad 2 = 19$

b) $9^2 \quad 11 \quad 8 \quad 4 \quad 1 = 60$

c) $5 \quad 6 \quad 15 \quad 9 = 24$

d) $14 \quad 2 \quad 7 \quad 3 \quad 9 = 10$

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EXTRA PROBLEMS:

1) Error Analysis: A student solved the expression $10 - 2 \times 3 + 4 \div 2$ and got 20. Identify the mistake(s) the student made and show the correct solution.

2) True or False: $(2 + 3 \times 4) = 20$ _____

   If False, explain why: _____

3) Find the Missing Operation: Fill in the blank with one of the four basic operations (+, -, ×, ÷) to make the following equation true.

$$(4^2 + 20) \_\_\_ (6 - 3)^2 = 4$$

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