

Unit 6: Expressions and Equations

ADVANCED

Name: _____ Date: _____

Show all work. Write each answer in the plain-text form requested (number, fraction like $\frac{3}{4}$, or a short value). Follow order of operations and keep answers exact.

1. Evaluate the expression $3 \times 2^4 - 5(7 - 4)^2 + 18$. Give the value.

Answer: _____

3. Evaluate $2^5 + 4^3 - \sqrt{144}$. Give the value.

Answer: _____

5. A number n satisfies $5(n - 3) = 2n + 27$. Find n .

Answer: _____

7. Solve for x : $4(2x + 5) - 3x = 65$. Give x .

Answer: _____

9. The perimeter of a rectangle is given by $P = 2(L + W)$. If $P = 58$ and $L = 17$, solve for W .

Answer: _____

11. Solve for m : $(\frac{2}{3})m = 26$. Give m as a fraction.

Answer: _____

2. Solve for x : $7x - 12 = 3x + 40$. Give x .

Answer: _____

4. Solve for y : $y/6 + 9 = 23$. Give y .

Answer: _____

6. Evaluate the expression $(a^2 + 3b) \div c$ when $a = 6$, $b = 8$, and $c = 5$. Give the value as a fraction if not whole.

Answer: _____

8. Evaluate $6 + 2 \times 3^3 - 40/8$. Give the value.

Answer: _____

10. Simplify the expression $8x + 5 + 3x - 2 - x$, then find its value when $x = 4$. Give the value.

Answer: _____

12. Evaluate $((10 - 2^2)^2 + 3 \times 2^3) \div 2$. Give the value.

Answer: _____