

Instructions: Record your answers to each of these problems directly on this page. Do the work on a separate page and attach these pages to this one. You should do the work by hand, but you may check your work with a calculator.

1. Given the expression $\frac{9C}{5} + 32$, what is the values of the expression for $C = 30$.

86

2. Evaluate $-x^3$ for $x = -2$. 8

3. Evaluate.

a. 4^x when $x = 2$ 16

b. $x^2 + 3x - 7$ when $x = 4$ 21

c. $2x + 4y - 5$ when $x = 7, y = 8$ 41

4. Evaluate the expression $\frac{4xy - 2z^2}{3xz + y^3}$ for $x = 1, y = -2, z = 3$.

$$\frac{4(1)(-2) - 2(3)^2}{3(1)(3) + (-2)^3} = \frac{-8 - 18}{9 - 8} = \frac{-26}{1} = -26$$

5. if $x = -2$, what is $-x$? 2

6. Use the distributive property to find a simpler equivalent expression for

$$(x + 4)2 - 9(y - 7)$$

$$2x + 8 - 9y + 63 = 2x - 9y + 71$$

7. Combine like terms.

a. $4m - 2n^2 + 5 + n^2 + m - 9$ $-n^2 + 5m - 4$

b. $x + 7y + 5 - 2y + 3x$ $4x + 5y + 5$

c. $3x^4 - 2y^4 + 8x^4y^4 - 7y^4 + 8y^4$ $3x^4 - y^4 + 8x^4y^4$

d. $9 - 5[x + 2(3 - 4x)] + 14$

$$9 - 5x - 10(3 - 4x) + 14 = 9 - 5x - 30 + 40x + 14 = 35x - 7$$

8. Simplify.

a. $3^2 - 18 \div (11 - 5)$ $9 - 18 \div 6 = 9 - 3 = 6$

b. $3(1 + 9 \cdot 6) - 4^2$ $3(1 + 54) - 16 = 3(55) - 16 = 165 - 16 = 149$

c. $5[2 + 4(3 - 2)]$ $5(2 + 4(1)) = 5(2 + 4) = 5 \cdot 6 = 30$

9. Translate each statement into an algebraic expression.

a. The sum of 8 and 12 $8 + 12$

b. 8 less than 19 $19 - 8$

c. The quotient of 42 and 7 $42 \div 7$ or $\frac{42}{7}$

d. The product of 9 and y $9y$

e. Seven times the difference of y and one $7(y - 1)$

f. Five times the sum of x and y $5(x + y)$

10. Explain the difference between "4 times the sum of x and y" and "the sum of 4 times x and y."

$\hookrightarrow 4(x+y)$ add $x+y$ first
The mult. by 4

$\hookrightarrow 4x+y$ multiply x by 4 first then add

11. Compute and simplify

a. $\sqrt{18} \times \sqrt{32}$

$$\sqrt{576} = 24$$

b. $\frac{\sqrt{96}}{\sqrt{6}} = \sqrt{16} = 4$