MDE 010, Homework #6, Summer 2023 Name _____

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 $C = 30$.

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

3. Evaluate.
   a. 4^x when $x = 2$
   b. $x^2 + 3x - 7$ when $x = 4$
   c. $2x + 4y - 5$ when $x = 7, y = 8$

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

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

6. Use the distributive property to find a simpler equivalent expression for
   $$(x + 4)2 - 9(y - 7)$$

7. Combine like terms.
   a. $4m - 2n^2 + 5 + n^2 + m - 9$
   b. $x + 7y + 5 - 2y + 3x$
   c. $3x^4 - 2y^4 + 8x^4y^4 - 7y^4 + 8y^4$
   d. $9 - 5[x + 2(3 - 4x)] + 14$

8. Simplify.
   a. $3^2 - 18 \div (11 - 5)$
   b. $3(1 + 9 \cdot 6) - 4^2$
   c. $5[2 + 4(3 - 2)]$

9. Translate each statement into an algebraic expression.
   a. The sum of 8 and 12
   b. 8 less than 19
   c. The quotient of 42 and 7
   d. The product of 9 and y
   e. Seven times the difference of y and one
   f. Five times the sum of x and y

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

11. Compute and simplify
    a. $\sqrt{18} \times \sqrt{32}$
    b. $\frac{\sqrt{96}}{\sqrt{6}}$