1. Evaluate f composed with g at $x = -1$.

$$f(x) = 2x^3 + 2x^2 + 4x - 1 \text{ and } g(x) = x^3 + x^2 - x - 3$$

2. Find the inverse of the function below (if it exists). If the inverse exists, evaluate the inverse at $x = -15.0$

$$f(x) = 5x^2 - 2$$

3. Find the inverse of the function below (if it exists). If the inverse exists, evaluate the inverse at $x = 7$.

$$f(x) = e^{x-3} + 5$$

4. Determine whether the function below is 1-1. Provide reasoning for your response.

$$f(x) = 36x^2 - 192x + 256$$

5. Multiply the following functions and write the domain of the resulting function.

$$f(x) = 6x + 7 \text{ and } g(x) = \sqrt{-6x + 22}$$

6. Find the inverse of the function below (if it exists). If the inverse exists, evaluate the inverse at $x = 12.0$

$$f(x) = 4x^2 - 5$$

7. Find the inverse of the function below (if it exists). If the inverse exists, evaluate the inverse at $x = 8$.

$$f(x) = \ln(x + 3) - 4$$

8. Add the following functions and write the domain of the resulting function.

$$f(x) = 7x^3 + 7x + 1 \text{ and } g(x) = \sqrt{5x + 26}$$

9. Determine whether the function below is 1-1. Provide reasoning for your response.

$$f(x) = (6x + 31)^3$$

10. Evaluate f composed with g at $x = 1$.

$$f(x) = -x^3 - 1x^2 + 3x - 4 \text{ and } g(x) = -2x^3 + 4x^2 - 3x - 3$$