Algebraic Reasoning

Name:_____

Per:_____

POINTS:____

Classwork #26 Quiz

Be sure to include your work when appropriate.

Generate the inverse of each cubic function.

1. $y = \frac{1}{2}(2x + 1)^3 + 3$
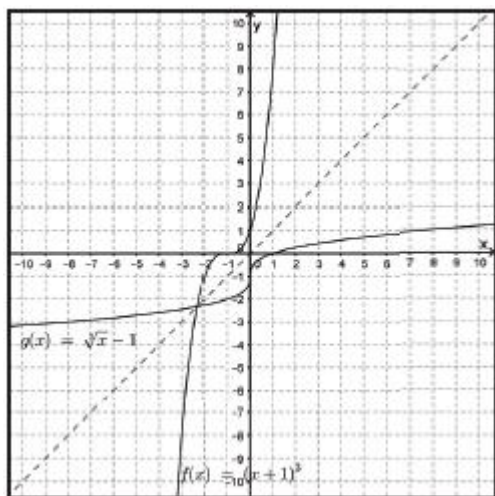
2. $y = -\frac{1}{3}(6x + 4)^3 + 1$

3. **Determine if the pair of equations, tables, or graphs represent a cubic function and its inverse.**

x	$f(x)$
-2	-16
-1	-2
0	0
1	2
2	16

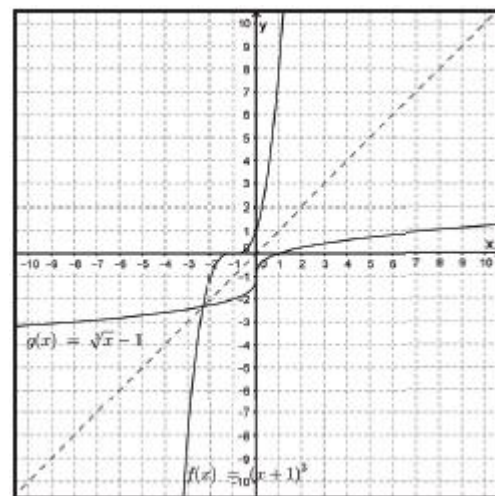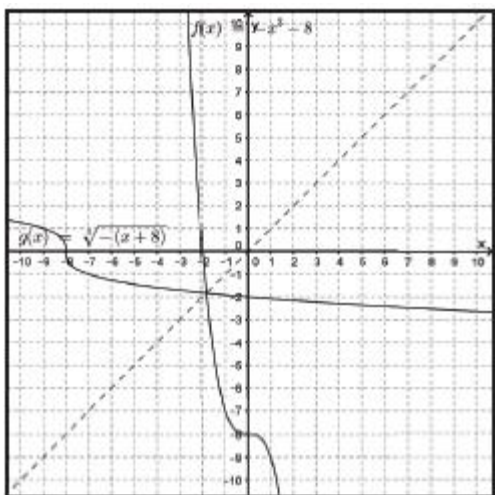| x	$g(x)$
-2	-1
-1	-0.7937
0	0
1	0.7937
2	1

Compare the domain and range as well as any intercepts, if they exist, of the functions graphed below. Write domain and range as inequalities, intervals, or in set builder notation.

4. Use the graph of $g(x) = \sqrt[3]{x} - 1$ and $f(x) = (x + 1)^3$

$$g(x) = \sqrt[3]{x} - 1$$

$$f(x) = (x+1)^3$$

5. use the graph of $g(x) = \sqrt[3]{-x + 8}$ and $f(x) = -x^3 - 8$

$$f(x) = x^3 - 8$$

$$g(x) = \sqrt[3]{-(x+8)}$$