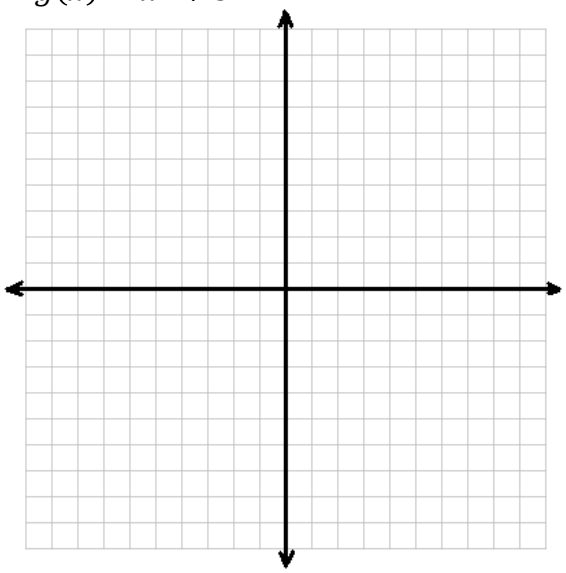
Name:_____ Date:_____ Band:_____
Algebra 2

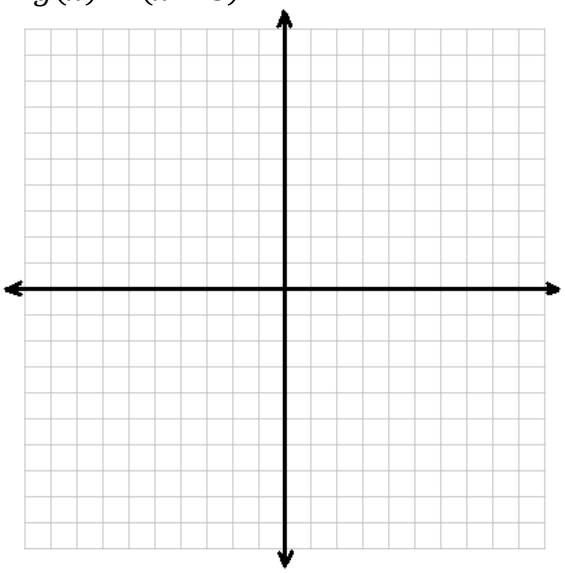
Transformations of Cubic Functions Homework

Describe the transformation of $f(x) = x^3$ represented by g. Then graph each function.

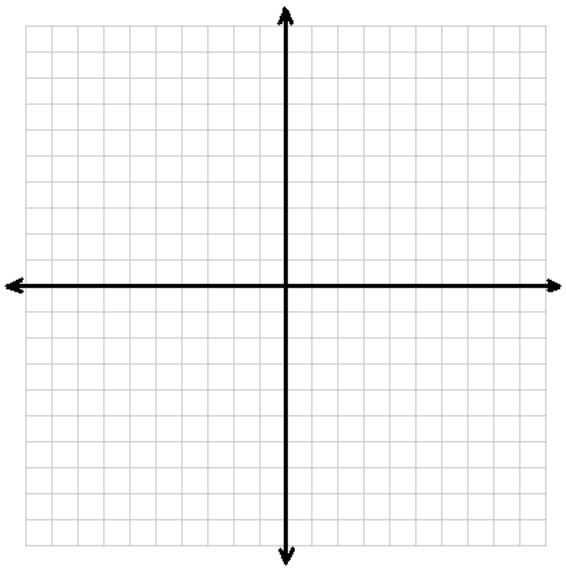
1. $g(x) = x^3 + 3$



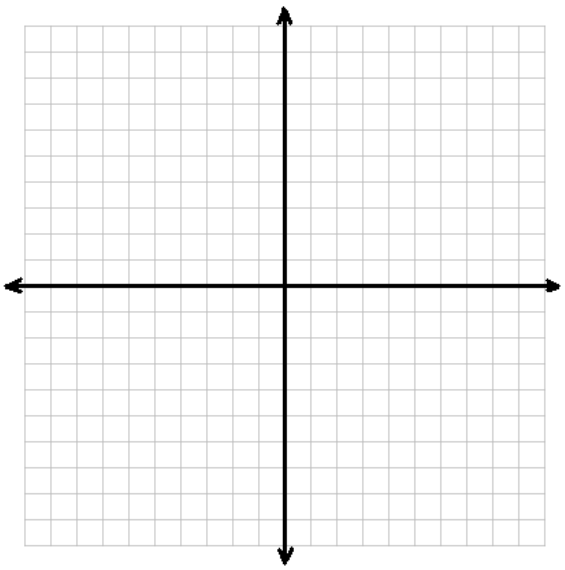
2. $g(x) = (x - 5)^3$



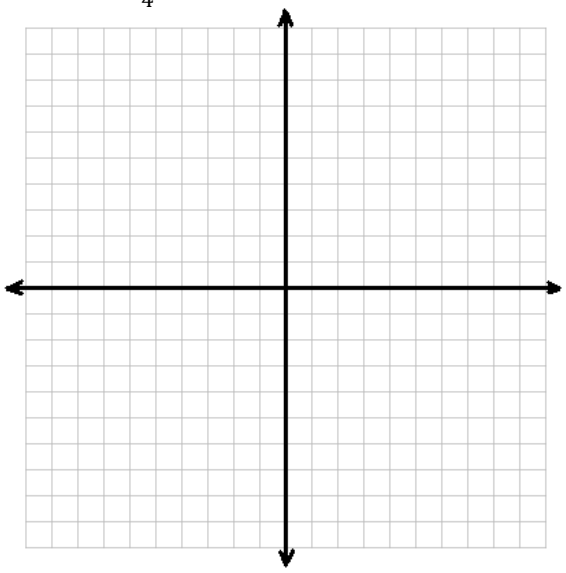
3. $g(x) = (x - 2)^3 - 1$



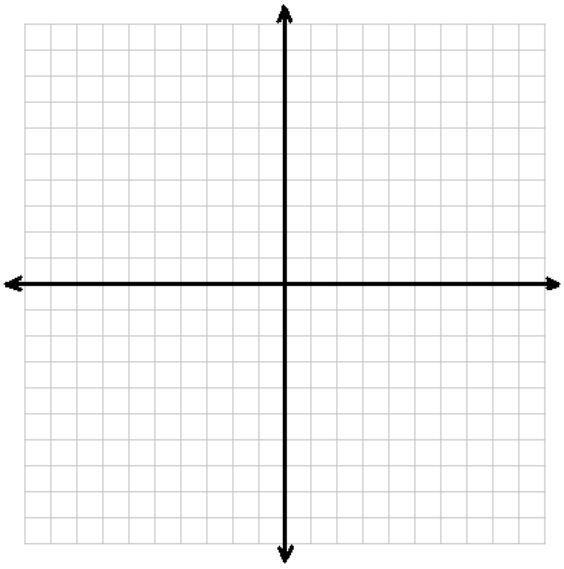
4. $g(x) = (2x)^3 - 3$



5. $g(x) = \frac{3}{4}(x+4)^3$



6. $g(x) = (-x)^3 + 1$

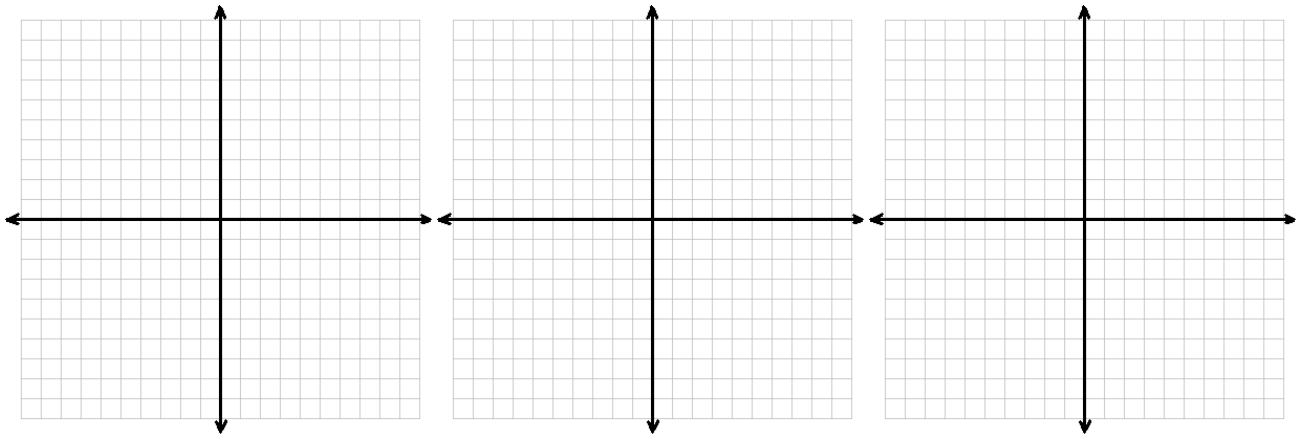


Write a rule for g and then graph each function. Describe the graph of g as a transformation of the graph of $f(x) = x^3$.

7. $g(x) = f(x+2)$

8. $g(x) = -\frac{1}{2}f(x)$

9. $g(x) = f(-x) - 5$



Write a rule for g that represents the indication transformations of the graph of $f(x) = x^3$.

10. Translation 3 units left followed by a reflection in the y-axis

11. Vertical stretch by a factor of 2, followed by a translation 4 units right

12. horizontal stretch by a factor of $\frac{1}{3}$ and a translation 2 units up, followed by a reflection in the x-axis