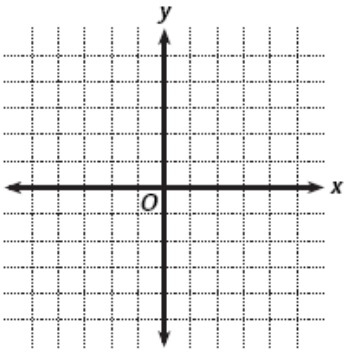
Algebra 2 Honors Name_____

Homework – Cube Roots Functions

For questions 1 – 4, graph the following cube root functions, without a graphing calculator, and label the given items.

1. $f(x)=\sqrt[3]{x-2}$



D:

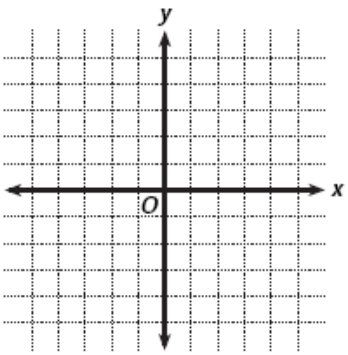
R:

Turning Point:

Translation:

End Behavior:

2. $f(x)=\sqrt[3]{x+3}-2$



D:

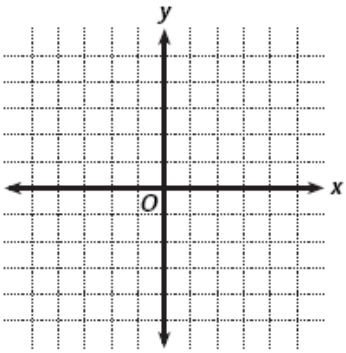
R:

Turning Point:

Translation:

End Behavior:

3. $f(x)=\sqrt[3]{x}+3$



D:

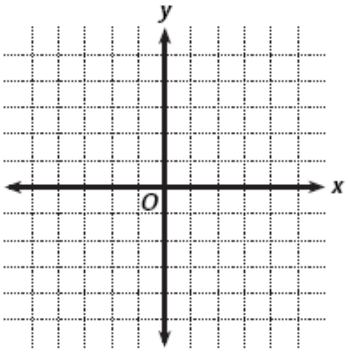
R:

Turning Point:

Translation:

End Behavior:

4. $f(x)=-\sqrt[3]{x-1}+4$



D:

R:

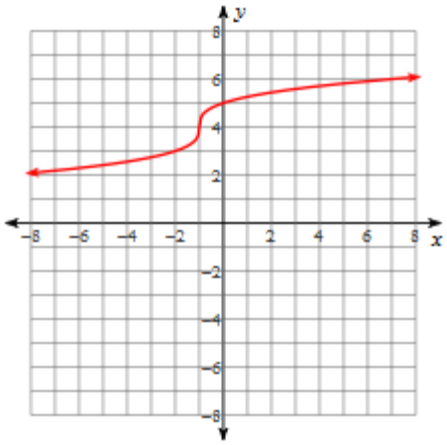
Turning Point:

Translation:

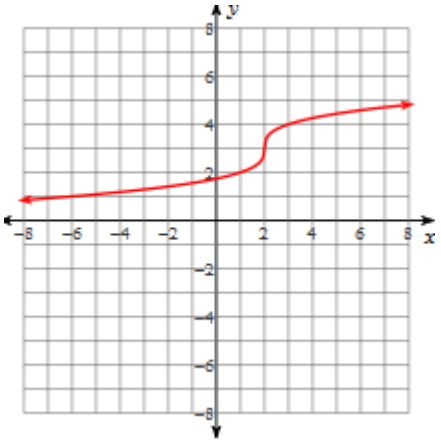
End Behavior:

For questions 5 – 6, write the translated equation.

5.



6.



5._____

6._____

7. Let $f(x)=\sqrt[3]{x}$ and let $g(x)$ be a translation of $f(x)$ expressed as $g(x)=f(x+8)$. What are the coordinates of the x-intercept of $g(x)$.

a. $(2,0)$ b. $(-2,0)$ c. $(8,0)$ d. $(-8,0)$

8. Let $f(x)=\sqrt[3]{x}$ and let $g(x)$ be a translation of $f(x)$ expressed as $g(x)=f(x-64)$. What are the coordinates of the x-intercept of $g(x)$.

a. $(4,0)$ b. $(-4,0)$ c. $(64,0)$ d. $(-64,0)$

9. Describe the domain and range of the function $f(x)=\sqrt[3]{x-7}+2$.

a. Domain: $(-\infty,7)$ and Range: $(-\infty,+\infty)$
b. Domain: $(-\infty,+\infty)$ and Range: $(-\infty,+\infty)$
c. Domain: $(0,7)$ and Range: $(2,0)$
d. Domain: $(-\infty,+\infty)$ and Range: $(7,2)$

10. Describe the domain and range of the function $f(x)=\sqrt[3]{x+5}-8$.

a. Domain: $(-\infty,+\infty)$ and Range: $(-\infty,+\infty)$
b. Domain: $(-\infty,-5)$ and Range: $(-\infty,+\infty)$
c. Domain: $(-\infty,+\infty)$ and Range: $(-5,-8)$
d. Domain: $(0,-5)$ and Range: $(-8,0)$