Practice 10.1, 10.2

Name(s)_____

Find the cube root.

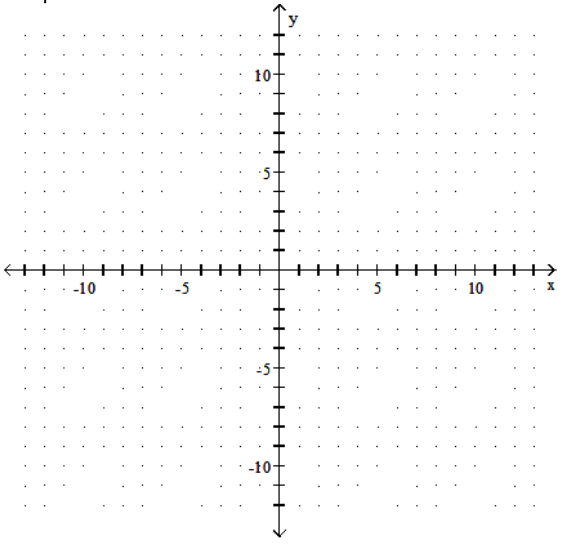
1) $\sqrt[3]{\frac{x^{12}}{125y^6}}$

2) $\sqrt[3]{-8x^{30}y^{18}}$

Identify the domain and then graph the function. Write the domain in interval notation.

3) $f(x) = \sqrt{x - 3}$; use the following table.

x	f(x)
3	
4	
7	



Use rational exponents to simplify the following.

4) $\sqrt[6]{y^4z^6}$

Use radical notation to write the expression. Simplify if possible.

5) $\left(\frac{8}{64}\right)^{2/3}$

6) $(2x + 1)^{3/5}$

Use rational exponents to write as a single radical expression.

7) $\sqrt[7]{x} \cdot \sqrt{x}$

8) $\sqrt[5]{3} \cdot \sqrt[3]{x}$

9) $\frac{\sqrt[5]{y^2}}{\sqrt[6]{y}}$

Answers

1) $\frac{x^4}{5y^2}$

2) $-2x^{10}y^6$

3)

x	$f(x)$
3	0
4	1
7	2

Domain: $[3, \infty)$

4) $y^{2/3}z^1$

5) $\frac{1}{4}$

6) $\left(\sqrt[5]{2x+1}\right)^3$ or $\sqrt[5]{(2x+1)^3}$

7) $x^{9/14} = \sqrt[14]{x^9}$

8) $\sqrt[15]{27x^5}$

9) $\sqrt[39]{y^7}$