

## Quiz Review

Date \_\_\_\_\_ Period \_\_\_\_\_

**Simplify.**

1)  $\sqrt{108x^3y^3}$

2)  $\sqrt[5]{96a^2b^5}$

3)  $\sqrt[4]{324u^2v^6}$

4)  $\sqrt[3]{375x^5y}$

**Write each expression in radical form.**

5)  $3^{\frac{1}{5}}$

6)  $7^{-\frac{5}{3}}$

**Write each expression in exponential form.**

7)  $(\sqrt[5]{2})^6$

8)  $(\sqrt[4]{3})^5$

**Simplify.**

9)  $125^{\frac{4}{3}}$

10)  $36^{\frac{1}{2}}$

11)  $49^{\frac{3}{2}}$

12)  $81^{-\frac{3}{2}}$

13)  $625^{-\frac{3}{4}}$

14)  $243^{\frac{4}{5}}$

**Identify the domain and range of each in set notation. Then sketch the graph. Plot at least 3 points.**  
^ and interval notation.

15)  $y = -\frac{1}{2}\sqrt{x+6} - 1$

16)  $y = 2\sqrt[3]{x+2} - 2$

17)  $y = \sqrt[3]{x} - 3$

18)  $y = -4 + 2\sqrt{x+2}$

## Quiz Review

Date \_\_\_\_\_ Period \_\_\_\_\_

**Simplify.**

$$1) \sqrt{108x^3y^3}$$

$$6xy\sqrt{3xy}$$

$$2) \sqrt[5]{96a^2b^5}$$

$$2b\sqrt[5]{3a^2}$$

$$3) \sqrt[4]{324u^2v^6}$$

$$3v\sqrt[4]{4u^2v^2}$$

$$4) \sqrt[3]{375x^5y}$$

$$5x\sqrt[3]{3x^2y}$$

**Write each expression in radical form.**

$$5) 3^{\frac{1}{5}}$$

$$\sqrt[5]{3}$$

$$6) 7^{-\frac{5}{3}}$$

$$\frac{1}{(\sqrt[3]{7})^5}$$

**Write each expression in exponential form.**

$$7) (\sqrt[5]{2})^6$$

$$2^{\frac{6}{5}}$$

$$8) (\sqrt[4]{3})^5$$

$$3^{\frac{5}{4}}$$

**Simplify.**

9)  $125^{\frac{4}{3}}$   
625

10)  $36^{\frac{1}{2}}$   
6

11)  $49^{\frac{3}{2}}$   
343

12)  $81^{-\frac{3}{2}}$   
 $\frac{1}{729}$

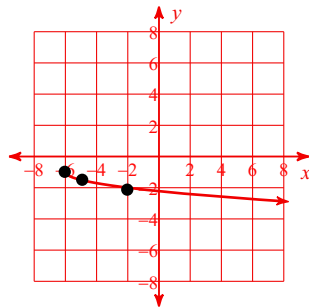
13)  $625^{-\frac{3}{4}}$   
 $\frac{1}{125}$

14)  $243^{\frac{4}{5}}$   
81

**Identify the domain and range of each in set notation. Then sketch the graph.**

15)  $y = -\frac{1}{2}\sqrt{x+6} - 1$

Interval notation:  
D: [-6, infinity)  
R: (-infinity, -1]

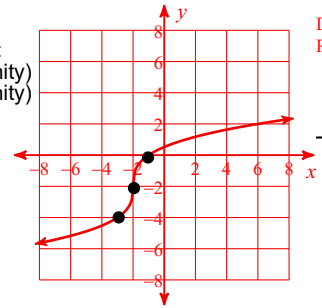


Domain: {  $x \geq -6$  }  
Range: {  $y \leq -1$  }

X	Y
-6	-1
-5	-1.5
-2	-2

16)  $y = 2\sqrt[3]{x+2} - 2$

Interval notation:  
D: (-infinity, infinity)  
R: (-infinity, infinity)

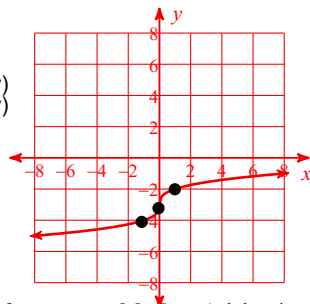


Domain: { All real numbers }  
Range: { All real numbers }

X	Y
-3	-4
-2	-2
-1	0

17)  $y = \sqrt[3]{x} - 3$

Interval notation:  
D: (-infinity, infinity)  
R: (-infinity, infinity)

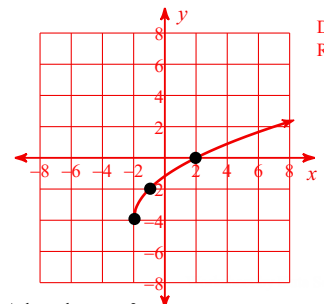


Domain: { All real numbers. }  
Range: { All real numbers. }

X	Y
-1	-4
0	-3
1	-2

18)  $y = -4 + 2\sqrt{x+2}$

Interval notation:  
D: [-2, infinity)  
R: [-4, infinity)



Domain: {  $x \geq -2$  }  
Range: {  $y \geq -4$  }

X	Y
-2	-4
-1	-2
2	0