

Lessons 5.6 - 5.8 Quiz Review

Find all real roots.

1) Third root of -216

2) Forth root of -81

3) Square root of 144



Simplify each expression.

4) $\sqrt[3]{384m^2}$

5) $\sqrt{\frac{216x^9}{8x^6}}$

6) $\sqrt[4]{16x^3} \cdot \sqrt[4]{4x^9}$



7) $\sqrt[4]{112b^6}$

8) $\sqrt[3]{72x^{10}}$

9) $\sqrt{\frac{9x^6}{25}}$

Write each expression in radical form and simplify.

10) $(4n)^{\frac{2}{5}}$

11) $(16b^4)^{-\frac{1}{4}}$

12) $x^{\frac{3}{4}}$



13) $(8)^{\frac{2}{3}}$

14) $49^{\frac{5}{2}}$

15) $(27)^{-\frac{2}{3}}$

Write each expression by using rational exponents.

16) $\sqrt[6]{n}$

17) $(\sqrt{7x})^3$

18) $(\sqrt[3]{3b})^2$



19) $(\sqrt[5]{2n^2})^2$

20) $(\sqrt[6]{10p})^5$

21) $\sqrt[3]{x}$

Simplify each expression.

$$22) 3^{\frac{2}{5}} \cdot 3^{\frac{2}{5}}$$

$$23) \frac{5^{\frac{7}{4}}}{\frac{3}{5^4}}$$

$$24) (7^2)^{\frac{4}{5}}$$



$$25) \frac{p^{\frac{1}{3}} \cdot p^{\frac{4}{3}}}{\left(p^{-\frac{3}{2}}\right)^{\frac{1}{3}}}$$

$$26) \left(\frac{n}{nn^{-\frac{3}{4}}}\right)^{\frac{3}{2}}$$

$$27) \left(\frac{x^{-2} \cdot x}{x^{-\frac{2}{3}}}\right)^{\frac{4}{3}}$$

Solve each equation. CHECK YOUR SOLUTIONS!!!

$$28) 6\sqrt{r+7} = 48$$

$$29) \sqrt[3]{m-6} - 2 = 2$$



$$30) 4 + \sqrt{x+9} = 6$$

$$31) \sqrt[3]{2b-2} = \sqrt[3]{3b-7}$$

$$32) \sqrt{22-2x} = 2\sqrt{5x}$$

$$33) \sqrt[3]{2+6p} = 2\sqrt[3]{p}$$



$$34) \sqrt{5n + 41} = n + 1$$

$$35) \sqrt{7m - 27} = m - 3$$

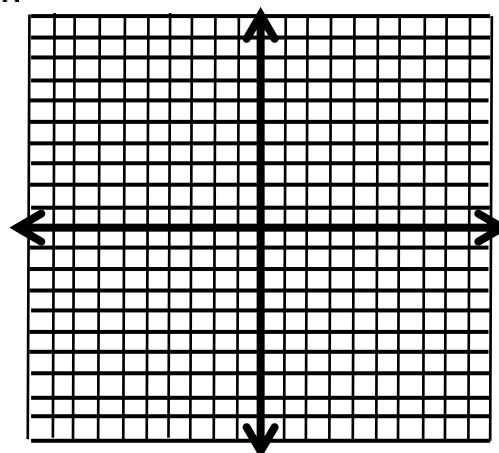


Graph each function and identify the domain and range of each function.

$$36) f(x) = \sqrt[3]{x + 1}$$



x	f(x) = $\sqrt[3]{x + 1}$	(x, f(x))
-9		
-2		
-1		
0		
7		

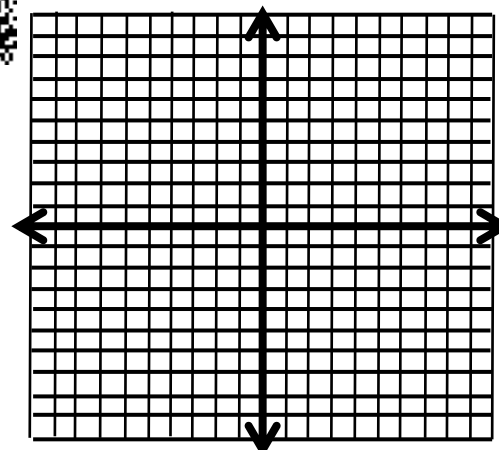


Domain: _____ Range: _____

$$37) f(x) = \sqrt{x + 5} - 1$$



x	f(x) = $\sqrt{x + 5} - 1$	(x, f(x))
-5		
-4		
-1		
4		



Domain: _____ Range: _____

38) $y = \frac{3}{2}\sqrt{x+4}$

x	$f(x) = \frac{3}{2}\sqrt{x+4}$	$(x, f(x))$
-4		
-3		
0		
5		

Domain: _____ Range: _____

