

7.1 Rational Exponents

CA #2

Name: _____

Directions: Write each expression in exponential form.

1) $(\sqrt{x-1})^5$

2) $(\sqrt[3]{-27g})^2$

3) $\frac{1}{\sqrt[3]{w}}$

4) $\sqrt{6y+2}$

Directions: Write each expression in radical form.

5) $n^{-3/5}$

6) $(n-8)^{2/3}$

7) $(14y)^{1/3}$

8) $(8y)^{-1/3}$

Simplify.

9) $\sqrt[3]{-27}$

10) $(\sqrt[3]{27})^{-4}$

11) $25^{3/2}$

12) $121^{3/2}$

13. The expression 36^a is equivalent to 216^b where a and b are both positive. Find the value of $\frac{b}{a}$?

Solve the following equations:

14. $5x^{\frac{1}{3}} + 6 = 16$

15. $125^{6+x} = 25$

16. $16^{2x+3} = 64^{x-4}$

17. $(x+6)^{\frac{1}{3}} = 5$

18. $31 = 29 + \sqrt[4]{2x-3}$

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Corrective Assignment Answers

1. $(x-1)^{\frac{5}{2}}$ 2. $(-27g)^{\frac{2}{3}}$ 3. $w^{-\frac{1}{3}}$ 4. $(6y+2)^{\frac{1}{2}}$ 5. $\frac{1}{(\sqrt[5]{n})^3}$ 6. $(\sqrt[3]{n-8})^2$ 7. $(\sqrt[3]{14y})$ 8. $\frac{1}{\sqrt[3]{8y}}$ 9. -3 10. $\frac{1}{81}$

11. 125 12. 1331 13. $\frac{b}{a} = \frac{2}{3}$ 14. $x = 8$ 15. $x = -\frac{16}{3}$ 16. $x = -18$ 17. $x = 119$ 18. $x = \frac{19}{2}$