

Math 2 Unit 3.7 Practice Radical form and Exponential form

Period _____

Write each expression in radical form.

1) $5^{\frac{7}{4}}$

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

3) $6^{\frac{1}{3}}$

4) $10^{\frac{1}{3}}$

5) $(5k)^{\frac{1}{2}}$

6) $x^{-\frac{1}{4}}$

7) $(6p)^{\frac{1}{2}}$

8) $(10n)^{\frac{2}{3}}$

Write each expression in exponential form. Write with a negative exponent as needed.

9) $\sqrt[6]{10}$

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

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

12) $\frac{1}{\sqrt[3]{7x^2}}$

13) $(\sqrt[3]{7n})^4$

14) $\sqrt[3]{7x^2}$

Solve each equation.

$$15) 2 = n^{\frac{1}{3}}$$

$$16) x^{\frac{3}{2}} = 343$$

$$17) n^{\frac{5}{3}} = 243$$

$$18) 64 = a^{\frac{3}{2}}$$

$$19) r^{\frac{3}{2}} = 729$$

$$20) 512 = x^{\frac{3}{2}}$$

$$21) 720 = -9 + m^{\frac{3}{2}}$$

$$22) 59 = (x - 15)^{\frac{6}{5}} - 5$$

$$23) 125 = (-23 - 2m)^{\frac{3}{2}}$$

$$24) -2x^{\frac{3}{2}} = -1024$$

$$25) (x + 1)^{\frac{3}{2}} = 8$$

$$26) 128 = 3 + k^{\frac{3}{2}}$$

$$27) 3 + 4 \cdot \left(\frac{x}{7}\right)^{\frac{1}{4}} = 11$$

$$28) 728 = (-3 - 3m)^{\frac{3}{2}} - 1$$

$$29) 4 - 5 \cdot (4a)^{\frac{1}{5}} = -6$$

$$30) -2(4m - 8)^{\frac{3}{2}} + 8 = -424$$