

Section 1.4 – Fractional Exponents

Problem Set 3

Rewrite the following expressions using the radical symbol, $\sqrt{\quad}$, instead of the fractional exponent.

1. $4^{\frac{1}{9}}$

2.

$(-3)^{\frac{8}{12}} 3.$

$8^{\frac{5}{7}}$ 4. $b^{\frac{4}{19}}$

Rewrite the following expressions using exponents.

5. $\sqrt[14]{(-2cq)^8}$

6. $\sqrt[4]{7}$

7. $\sqrt[6]{2^7}$

8. $\sqrt{703}$

Simplify the following expressions.

9. $a^{\frac{3}{7}} \cdot a^{\frac{1}{7}}$

10. $s^{\frac{7}{8}} \cdot s^{\frac{1}{4}} + t^{\frac{3}{7}} \cdot t^{\frac{4}{7}}$

11. $(m^{16}n^8)^{\frac{1}{8}}$

12. $\frac{\sqrt[5]{p^4q^4}}{\sqrt[10]{p}}$

13. $\frac{p^{\frac{9}{12}}}{p^{\frac{1}{6}}}$

14. $\frac{b^{\frac{1}{3}}}{b^5}$

15. $\sqrt[4]{x^3y^2} \cdot \sqrt{x^7y^6}$

16. $\sqrt[6]{w^2h^3} \cdot \sqrt{w^2h^3}$

17. $\sqrt[3]{k^3}$

18. $\frac{y^3}{y^{\frac{21}{2}}}$

19. $\frac{11f^8g^{\frac{7}{8}}}{2f^{12}g^{\frac{3}{8}}}$

20. $\frac{\left(t^5j^{\frac{3}{2}}\right)^3}{tj}$