

6. a. $16^{\frac{1}{2}}$ d. $49^{-\frac{1}{2}}$
b. $16^{\frac{3}{4}}$ e. 5^{-1}
c. -3^{-2}
7. a. $(\frac{1}{3})^{-2}$ d. $64^{\frac{2}{3}}$
b. $(.1)^{-2}$ e. $(\frac{16}{25})^{-\frac{1}{2}}$
c. -5^0
8. a. $(\frac{1}{3})^2$ d. $(\frac{121}{16})^{\frac{1}{2}}$
b. $(\frac{1}{4})^{\frac{1}{2}}$ e. $(.01)^{\frac{1}{2}}$
c. $(\frac{3}{5})^{-1}$
9. a. $(\frac{1}{5})^{-2}$ d. $(\frac{169}{16})^{-\frac{1}{2}}$
b. $(\frac{1}{49})^{\frac{1}{2}}$ e. $(.2)^{-2}$
c. $(\frac{5}{17})^{-1}$

b. $\frac{12^0}{12^{-1}}$

e. $\frac{3^{\frac{4}{3}}}{3^{\frac{2}{3}}}$

c. $\frac{5^{\frac{1}{3}}}{5^{-\frac{5}{3}}}$

14. a. $\frac{3^{\frac{1}{2}}}{3^{-\frac{1}{2}}}$

d. $\frac{11^{-2}}{11^{-1}}$

b. $\frac{12^{\frac{4}{3}}}{12^{\frac{1}{3}}}$

e. $\frac{169^{\frac{1}{2}}}{-169}$

c. $\frac{7^{-5}}{7^{-7}}$

Use the Powered Number Rule to simplify the following expressions. Report your answer as a single number with an exponent of 1.

15. a. $-(5^2)^{\frac{1}{2}}$

d. $(10^{-1})^2$

b. $(-5^0)^2$

e. $(3^{\frac{1}{3}})^{12}$

c. $(5^6)^{\frac{1}{3}}$

16. a. $(4^{-1})^{-2}$

d. $(5^{\frac{3}{5}})^{-25}$

b. $(9^{-1})^{\frac{1}{2}}$

e. $(81^{\frac{1}{4}})^3$

c. $(10^2)^{\frac{1}{2}}$

Use the Powered Product Rule to simplify the following expressions. Change your answer to proper traditional form.

17. a. $(48)^{\frac{1}{2}}$

d. $(3000)^{\frac{1}{3}}$

b. $(3\sqrt{5})^2$

e. $(54)^{\frac{1}{3}}$

c. $2^{\frac{1}{3}} \cdot 3^{\frac{1}{3}} \cdot 36^{\frac{1}{3}}$

18. a. $5^{\frac{1}{3}} \cdot 4^{\frac{1}{3}} \cdot 25^{\frac{1}{3}} \cdot 16^{\frac{1}{3}}$

d. $(2\sqrt[3]{2})^3$

b. $(45)^{\frac{1}{2}}$

e. $(32)^{\frac{1}{4}}$

c. $(75)^{\frac{1}{2}}$

Use the Powered Ratio Rule to simplify the following expressions to simplest proper form. Use traditional notation where possible.

19. a. $(\frac{3}{4})^2$

d. $(\frac{121}{169})^{\frac{1}{2}}$

b. $(\frac{2\sqrt{3}}{9})^2$

e. $(.2)^3$

c. $(\frac{1}{2})^{\frac{1}{2}}$

20. a. $(\frac{\sqrt{3}}{8})^2$

d. $(\frac{1}{7})^{\frac{1}{2}}$

b. $(\frac{5}{6})^{-1}$

e. $(\frac{25}{9})^{\frac{1}{2}}$

c. $(.3)^2$

Use the Rules that you need in combinations to simplify the following expressions. Report your answer in simplest proper form.

21. a. $(\frac{1}{\sqrt{2}})^{-2}$

d. $(4\sqrt[3]{5})^{\frac{3}{2}}$

b. $(125)^{\frac{1}{3}}$

e. $(\frac{64}{125})^{\frac{2}{3}}$

c. -103^0

22. a. $(\frac{1}{125})^{\frac{2}{3}}$

d. $(.01)^{-\frac{1}{2}}$

b. $-500^0(\frac{2}{3})^{-2}$

e. $-64^{\frac{1}{6}}$

c. $400^{\frac{1}{2}}$

23. a. $\frac{1}{2}(2)^{-3}(2^3)^2$

d. $\frac{4^{-1}(16)}{4^3}$

b. $\frac{-111^0(5007)^0}{2^{-2}}$

e. $\frac{1005^{\frac{3}{2}}}{1005^{\frac{1}{2}}}$

c. $(\frac{1}{5})^{\frac{1}{2}}$