

Properties of Exponents
Emphasis on Negative Exponents

Simplify each of the following:

1. a^{-5}

$$\frac{1}{a^5}$$

2. $\frac{1}{f^{-3}}$

$$f^3$$

3. b^{-2}

$$\frac{1}{b^2}$$

4. $\frac{1}{g^{-15}}$

$$g^{15}$$

5. c^{-1}

$$\frac{1}{c}$$

6. $\frac{1}{h^{-12}}$

$$h^{12}$$

7. d^{-7}

$$\frac{1}{d^7}$$

8. $\frac{1}{j^{-11}}$

$$j^{11}$$

9. e^{-8}

$$\frac{1}{e^8}$$

10. $\frac{1}{k^{-13}}$

$$k^{13}$$

11. l^{-14}

$$\frac{1}{l^{14}}$$

12. $\left(\frac{1}{r}\right)^{-7}$

$$r^7$$

13. m^{-23}

$$\frac{1}{m^{23}}$$

14. $\left(\frac{1}{t}\right)^{-17}$

$$t^{17}$$

15. n^{-2}

$$\frac{1}{n^2}$$

16. $\left(\frac{1}{x}\right)^{-20}$

$$x^{20}$$

17. p^{-3}

$$\frac{1}{p^3}$$

18. $\left(\frac{1}{z}\right)^{-5}$

$$z^5$$

19. q^{-1}

$$\frac{1}{q}$$

20. $\left(\frac{1}{y}\right)^{-6}$

$$y^6$$