

**P-32** Rewrite each expression in exponential form.

$$1. \frac{1}{x} = x^{-1}$$

$$4. \frac{1}{x^7} = x^{-7}$$

$$2. \frac{1}{(x+1)^2} = (x+1)^{-2}$$

$$5. \left(\frac{1}{x}\right)^2 = \frac{1}{x^2} = x^{-2}$$

$$3. \frac{x}{x^4} = \frac{1}{x^3} = x^{-3}$$

$$6. \left(\frac{(x-2)}{(x-2)^3}\right)^4 = \left(\frac{1}{(x-2)^2}\right)^4 = \frac{1}{(x-2)^8} = (x-2)^{-8}$$

Rewrite each expression as a fraction.

$$7. x^{-1} = \frac{1}{x}$$

$$10. (x^2)^{-1} = \frac{1}{x^2}$$

$$8. (x^2 - 7x + 10)^{-4} = \frac{1}{(x^2 - 7x + 10)^4}$$

$$11. (x^{-1})^2 = \left(\frac{1}{x}\right)^2 = \frac{1}{x^2}$$

$$9. (x-1)^{-3} = \frac{1}{(x-1)^3}$$

$$12. ((x-2)^3)^{-4} = (x-2)^{-12} = \frac{1}{(x-2)^{12}}$$

Find the value of each expression.

$$13. 4^{-1} = \frac{1}{4}$$

$$17. (-5)^{-3} = \frac{1}{(-5)^3} = \frac{1}{-125} = -\frac{1}{125}$$

$$14. (-4)^{-1} = \frac{1}{-4} = -\frac{1}{4}$$

$$18. (-2)^3 = -8$$

$$15. 8^{-2} = \frac{1}{8^2} = \frac{1}{64}$$

$$19. (+2)^{-4} = \frac{1}{2^4} = \frac{1}{16}$$

$$16. 4^{-3} = \frac{1}{4^3} = \frac{1}{64}$$

$$20. (-2)^{-4} = \frac{1}{(-2)^4} = \frac{1}{16}$$