

Simplifying Rational Expressions

Reduce each of the following to lowest terms:

$$1. \frac{3x^3y}{x^2y^2}$$

$$2. \frac{4xy^2}{2x^3y^3}$$

$$3. \frac{x(x+2)}{x(x-2)}$$

$$4. \frac{(x-1)(x+2)}{(2+x)}$$

$$5. \frac{x^2+x}{x+1}$$

$$6. \frac{x-1}{1-x}$$

$$7. \frac{3x^2}{6x^2-9x}$$

$$8. \frac{4x^2-2x^2}{2x^2}$$

$$9. \frac{t^2+2t}{t^2+t-2}$$

$$10. \frac{x^3-4x}{x^3-4x^2+4x}$$

$$11. \frac{a-x}{x-a}$$

$$12. \frac{t^2-at}{t^2}$$

$$13. \frac{a^2-t^2}{(a-t)^2}$$

$$14. \frac{(x+y)^2}{x^2-y^2}$$

$$15. \frac{x^2+x-6}{(x-3)(x-2)}$$

$$16. \frac{2x^2-5x+2}{2x^2-3x-2}$$

$$17. \frac{4t^2+3t-1}{4t^2-5t+1}$$

$$18. \frac{x^2+4x-5}{x-1}$$

$$19. \frac{(x-1)(x+1)^2}{(x+1)(x-1)^2}$$

$$20. \frac{x^4-x^2}{x^4-1}$$

$$21. \frac{t^3-1}{t^4-1}$$

$$22. \frac{x^3+1}{(x+1)^3}$$

$$23. \frac{x^4-y^4}{(x+y)^2(x^2+y^2)}$$

$$24. \frac{4x^2+2x-2}{4x^2-1}$$