

Quotient Rule

Name:

Block:

Differentiate each function with respect to x .

1. $f(x) = \frac{1}{3x^2 + 2x + 1}$

2. $A(x) = \frac{1}{x + \sqrt{x}}$

3. $f(x) = \frac{x + 4}{x^2}$

4. $g(x) = \frac{x^2 + x}{x^3 + 1}$

5. $h(x) = \frac{\sqrt{x} + \sqrt[3]{x}}{1 + x^2}$

6. $f(x) = \frac{3x^3}{2x^2 + x + 1}$

7. $f(x) = \frac{\sin x}{\cos x}$

8. $r(x) = \frac{1}{\sin x}$

9. $s(x) = \frac{1}{\cos x}$

10. $u(x) = \frac{\cos x}{\sin x}$

11. $v(x) = \frac{e^x}{x}$

12. $a(x) = 4 \frac{x^4}{\sin x}$

13. $u(x) = \frac{1 - x^{-3}}{\cos x}$

14. $f(x) = \frac{\frac{1}{2}x^2 + x - 3}{3 \ln x}$

15. $f(x) = \frac{x \ln x}{e^x}$

16. $p(x) = \frac{1 + \sin x}{\sqrt{x} + x}$

17. $g(x) = \frac{2 \sin x \cos x}{x}$

18. $h(x) = \frac{(1 + x^2) \sin x}{1 - \cos x}$

19. $u(x) = 2x^2 \frac{\ln x}{1 - x^{-2}}$

20. $f(x) = \frac{e^x \sqrt[3]{x}}{x^2 + 3}$