Quotient Rule

Find the derivative of each function.

Formulas

$$\frac{d}{dx}\left[\frac{f}{g}\right] = \frac{f'g - fg'}{g^2}$$

1. $f(x) = \dfrac{x}{x+2}$

2. $f(x) = \dfrac{x^2}{x-5}$

3. $f(x) = \dfrac{3x+1}{x-4}$

4. $f(x) = \dfrac{x+6}{x^2+2}$

5. $f(x) = \dfrac{3}{x^2+5}$

6. $f(x) = \dfrac{3x-2}{3x+4}$

7. $f(x) = \dfrac{\sin(x)}{x^2}$

8. $f(x) = \dfrac{e^x}{x^2}$

9. $f(x) = \dfrac{\ln(x)}{x^2}$

10. $f(x) = \dfrac{x^2}{e^x}$

11. $f(x) = \dfrac{x^2 + 2}{x - 5}$

12. $f(x) = \dfrac{\cos(x)}{x^2}$

13. $f(x) = \dfrac{x^3}{\sin(x)}$

14. $f(x) = \dfrac{x + 4}{e^x}$

15. $f(x) = \dfrac{e^x}{x^2 + 2}$

16. $f(x) = \dfrac{\sin(x)}{1 + \cos(x)}$

17. $f(x) = \dfrac{\ln(x)}{x^2 + 1}$

18. $f(x) = \dfrac{x^2 - 1}{x^2 + x + 1}$

19. $f(x) = \dfrac{\cos(x)}{1 - \sin(x)}$

20. $f(x) = \dfrac{x\,e^x}{x + 2}$