Calculus I – Derivative Practice

Find $\frac{dy}{dx}$:

1. $y = 2x\sqrt{x^2 - 2x - 2}$

2. $y = \pi x + e + \sin^3 x + \sin x^3$

3. $y = \dfrac{\cos(5x - 7)}{x^4}$

4. $y = x\tan\left(\sqrt{x}e^x\right)$

5. $y = \ln\left(\sin\left(\dfrac{x}{5}\right)\right)$

6. $y = 2^{\sin^{-1}x} - \tan^{-1}(e^x)$

7. $y = \sqrt[4]{\dfrac{3x - 8}{5 - x}}$

8. $y = \sin^2 x + \cos^2 x$

9. $xy + \log_5(x) = e^y$

10. $x^3 + y^3 + x^2y + xy^2 = 7$