In each problem, find a formula for $\dfrac{dy}{dx}$.

1. $y = x^8 + 30 + \dfrac{1}{x^4}$
2. $y = 5\sin(x) - 2\cos(x)$
3. $y = \sin(6x - 1)$
4. $y = \cos\left(\sin(6x - 1)\right)$
5. $y = e^{x^2 - 3x}$
6. $y = (\sin(x))^{100}$
7. $y = e^x \sin(x)$
8. $y = x^{5/4} \cdot (5/4)^x$
9. $y = (3 + 4x + 5x^2)\,(\tan(x))$
10. $y = x^2 \cos(15x)$
11. $y = \cos\left(x^2 \sin(x)\right)$
12. $y = \tan\left(x^5 - 12\tan(x)\right)$
13. $y = 7^{6^x}$
14. $e^{(1/x)+(1/x^2)}$
15. $y = 2\sqrt{x} \cdot \cos(9x)$
16. $y = 9x \cdot 9^x \cdot e^{9x}$
17. $y = \pi^{\pi x \cos(x)}$
18. $y = (\sin(x) + \cos(x))^8$
19. $y = \dfrac{e^x}{x^5 + 1}$
20. $y = \dfrac{1 + 2x + 3x^2}{x - 5}$
21. $y = \dfrac{\sin(3x)}{3x}$
22. $y = \left(x^4 + 2\right)\left(\dfrac{e^x}{x - 3}\right)$
23. $y = \cos\left(\dfrac{x^8}{\tan(x)}\right)$
24. $y = \dfrac{1}{\sin\left(\sqrt{x}\right)}$
25. $y = \left(x^{4.3} - 4.3x\right)^{1.2}$