Occidental College Department of Mathematics
Gateway – Derivatives (practice)

Course: _____   Date: _____   Name: _____

Find the derivative of the following functions. You DO NOT need to simplify your results!

1. $y = 7^x$ $\dfrac{dy}{dx} =$

2. $y = (3 - 5x^3)^4$ $\dfrac{dy}{dx} =$

3. $y = \sin\left(\ln(3x)\right)$ $\dfrac{dy}{dx} =$

4. $f(x) = e^{\cos(x)}$ $f'(x) =$

5. $y = 3x^{-5} + \cos(\pi)$ $\dfrac{dy}{dx} =$

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6. $k(x) = \dfrac{x^3 - 2x^2}{\cos(x)}$ $\qquad\qquad$ $k'(x) =$

7. $y = \sin\left(x^3 3^x\right)$ $\qquad\qquad$ $\dfrac{dy}{dx} =$

8. $p(x) = \ln(6x^2)$ $\qquad\qquad$ $p'(x) =$

9. $y = x^{\frac{1}{2}} \cos(x)$ $\qquad\qquad$ $\dfrac{dy}{dx} =$

10. $y = 5x^2 - 2x^3 + 5$ $\qquad\qquad$ $\dfrac{dy}{dx} =$