

## Integrals and Natural Logarithms #2

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### Instructions

Answers appear on the ANSWERS page. Solutions appear on the SOLUTIONS page.

1. Compute:  $\int (2x^4 + 6x^3 + 3x + 6\sqrt{x} + 2) dx =$

2. Compute:  $\int (2 \cos(x) + 5 \sec^2(x)) dx =$

3. Compute:  $\int_{x=0}^{x=2} (2x^3 + 3x^2 + 2) dx =$

4. Compute:  $\int (2x^3 + 2x)^5 (3x^2 + 1) dx =$

5. Compute:  $\int \cos(3x^2) x dx =$

6. Compute:  $\int \frac{x}{3x^2+6} dx =$

7. Compute:  $\frac{d}{dx} [\ln(\cos(x))] =$

8. Compute:  $\frac{d}{dx} [\ln(5x^2 + 5x)] =$

9. Compute:  $\frac{d}{dx} [\ln(x\sqrt{x^2-1})] =$

10. Compute:  $\int_{x=0}^{x=1} (x^2 + 1)^3 x dx =$