Quiz 1 Review

For questions 1–4, find each indefinite integral.

1. $\int (4x^3 - 5)\,dx$

2. $\int \sqrt[4]{x}\,dx$

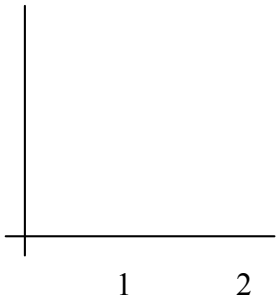
3. $\int \frac{x^5 + 5}{x^5}\,dx$

4. $\int (-5\sin x)\,dx$

5. Solve the differential equation $\frac{dy}{dx} = \frac{3}{x^3}$ with initial condition $y = 0$ when $x = 2$.

6. Find the sum $\sum_{i=1}^{3} i^3$.

7. Find the upper Riemann sum of $f(x) = x^2 + 1$ on [0, 2] with $n = 4$. (Draw and label your rectangles.)



For questions 8 and 9, evaluate each definite integral.

8. $\int_0^3 (x^3 + 2)\,dx$

9. $\int_0^{\pi/2} \cos x\,dx$