Calculus 2 Workbook

Definite integrals

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DEFINITE INTEGRALS

1. Evaluate the definite integral.

$$\int_0^3 x^3 + x^2 + x + 1 \; dx$$

2. Evaluate the definite integral.

$$\int_{-\frac{\pi}{4}}^{\frac{\pi}{2}} 2\sin x + 3\cos x \; dx$$

3. Evaluate the definite integral.

$$\int_{-4}^{4} 2x^3 - 4x^2 + 25 \; dx$$

4. Evaluate the definite integral.

$$\int_1^2 6x^5 - 8x^3 + 4x + 3 \; dx$$

5. Evaluate the definite integral.

$$\int_0^{\pi} 5 \sin x \ dx$$

AREA UNDER OR ENCLOSED BY THE CURVE

■ 1. Find the area under the graph of $f(x) = 2x^2 - 3x + 5$ over the interval $[-2,6]$.

■ 2. Find the area enclosed by the graph of $g(x) = 2x(x + 4)(x - 2)$ over the interval $[-4,2]$.

■ 3. Find the area under the graph of $h(x) = 3\sqrt{x}$ over the interval $[4,16]$.

DEFINITE INTEGRALS OF EVEN AND ODD FUNCTIONS

1. Evaluate the definite integral.

$$\int_{-3}^{3} -x^4 + 19 \, dx$$

2. Evaluate the definite integral.

$$\int_{-\frac{\pi}{4}}^{\frac{\pi}{4}} 7\cos x \, dx$$

3. Evaluate the definite integral.

$$\int_{-2}^{2} \frac{3}{4}x^2 + 5 \, dx$$

4. Evaluate the definite integral.

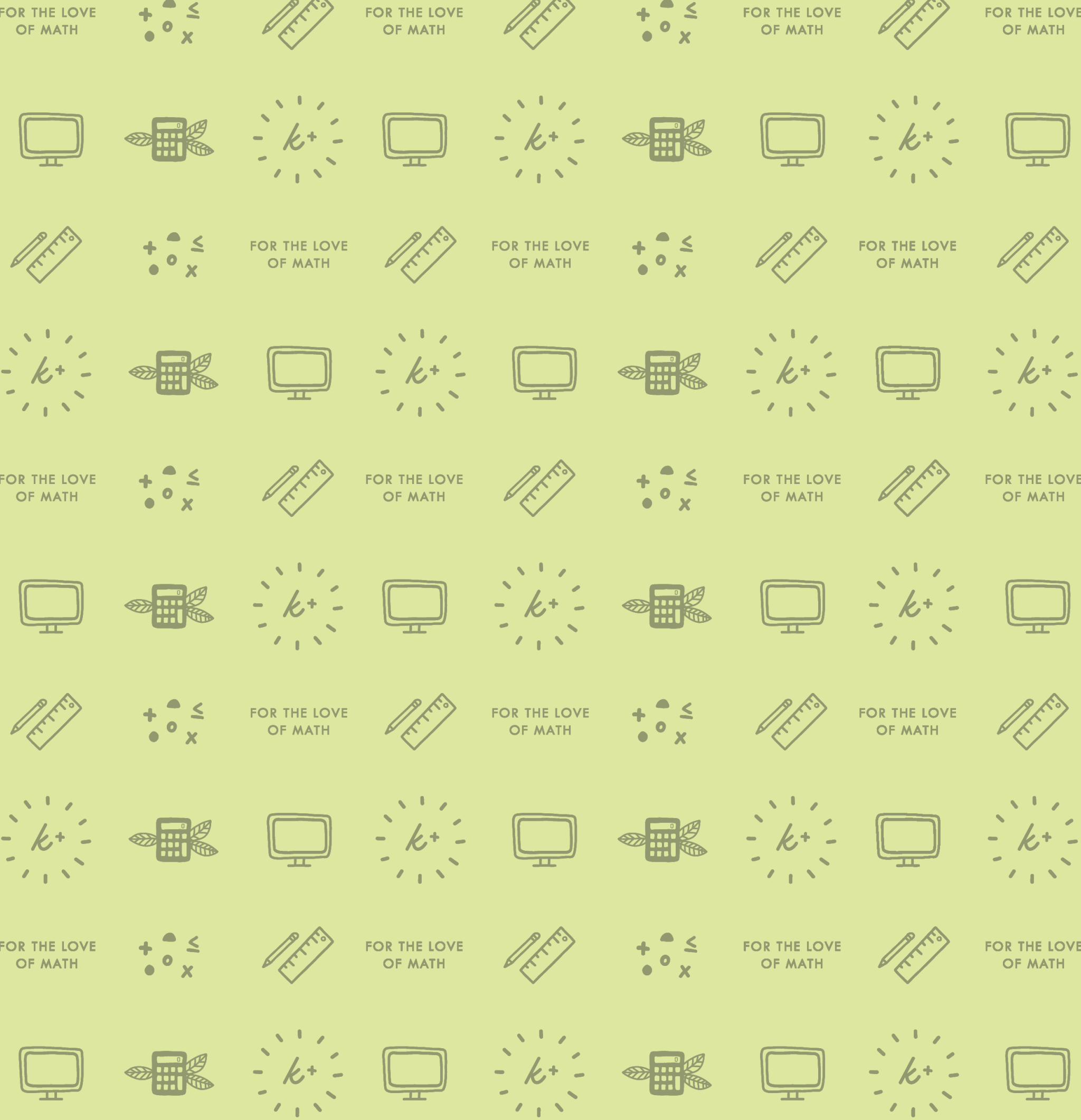
$$\int_{-2}^{2} 3x^5 - 4x^3 + 8x \, dx$$

5. Evaluate the definite integral.

$$\int_{-\frac{\pi}{3}}^{\frac{\pi}{3}} 9 \sin x \ dx$$

6. Evaluate the definite integral.

$$\int_{-2}^{2} 2x^3 - 4x \ dx$$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