Calculus 2 Workbook

Trigonometric integrals

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SIN^M COS^N, ODD M

1. Evaluate the trigonometric integral.

$$\int \sin^5(3x^2+2x+1)\cos(3x^2+2x+1)(6x+2)\,dx$$

SIN^M COS^N, ODD N

1. Evaluate the trigonometric integral.

$$\int_{-\frac{\pi}{6}}^{\frac{\pi}{3}} (4+\cos x)\sin x \; dx$$

2. Evaluate the trigonometric integral.

$$\int \sin(2x)\cos^3(2x) \; dx$$

SIN^M COS^N, M AND N EVEN

1. Evaluate the trigonometric integral.

$$\int \sin^2(2x+3)\cos^2(2x+3)\ dx$$

2. Evaluate the trigonometric integral.

$$\int \sin^4(2x)\cos^2(2x)\ dx$$

3. Evaluate the trigonometric integral.

$$\int \sin^6(3x)\cos^4(3x)\ dx$$

TAN^M SEC^N, ODD M

1. Evaluate the trigonometric integral.

$$\int \tan^3(2x)\sec(2x)\ dx$$

2. Evaluate the trigonometric integral.

$$\int \tan^5(3x)\sec(3x)\ dx$$

TAN^M SEC^N, EVEN N

1. Evaluate the trigonometric integral.

$$\int \tan^2(4x)\sec^4(4x)\ dx$$

2. Evaluate the trigonometric integral.

$$\int \tan^4(2x)\sec^4(2x)\ dx$$

3. Evaluate the trigonometric integral.

$$\int \tan^4(3x-1)\sec^4(3x-1)\ dx$$

SIN(MX) COS(NX)

1. Evaluate the trigonometric integral.

$$\int 5\sin(6x)\cos(3x)\ dx$$

2. Evaluate the trigonometric integral.

$$\int 2\sin(9x)\cos(4x)\ dx$$

3. Evaluate the trigonometric integral.

$$\int \frac{1}{3}\sin(12x)\cos(7x)\ dx$$

SIN(MX) SIN(NX)

1. Evaluate the trigonometric integral.

$$\int 6\sin(9x)\sin(2x)\ dx$$

2. Evaluate the trigonometric integral.

$$\int \frac{1}{2}\sin(8x)\sin(4x)\ dx$$

3. Evaluate the trigonometric integral.

$$\int 8\sin(14x)\sin(7x)\ dx$$

COS(MX) COS(NX)

1. Evaluate the trigonometric integral.

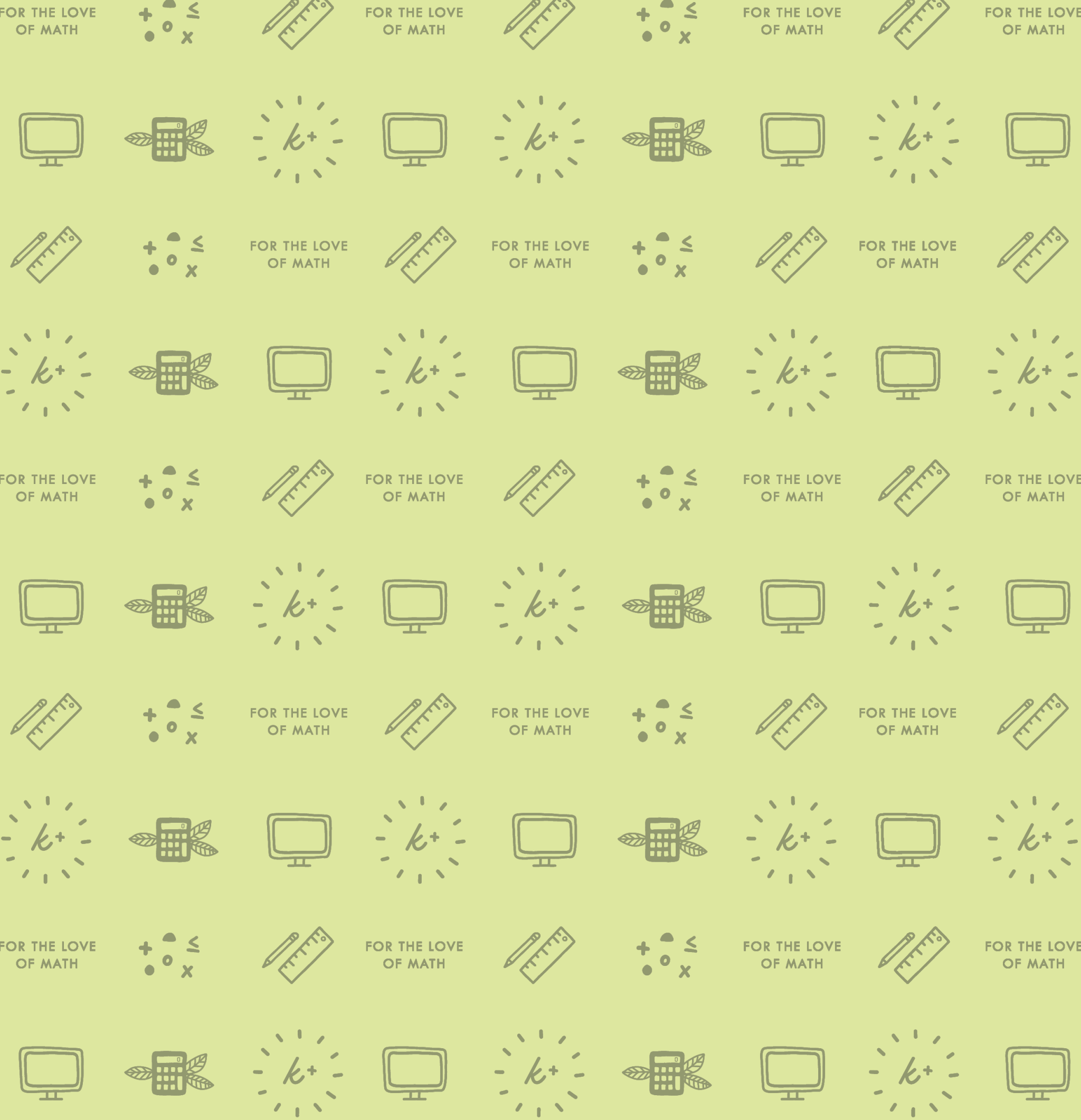
$$\int 7\cos(8x)\cos(3x)\ dx$$

2. Evaluate the trigonometric integral.

$$\int 5\cos(15x)\cos(5x)\ dx$$

3. Evaluate the trigonometric integral.

$$\int 49\cos(21x)\cos(14x)\ dx$$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