



TEST 1 REVIEW

**Problem 1.** Compute  $\int \frac{x^2}{\sqrt{9-x^2}} dx$ .

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**Problem 2.** Compute  $\int_{x=0}^2 \frac{x}{\sqrt{36-4x^2}} dx$ .

**Problem 3.** Compute  $\int_{t=0}^2 \frac{1}{\sqrt{4+t^2}} dt$ .

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**Problem 4.** Compute  $\int_{t=0}^a t^2 \sqrt{a^2 - t^2} dt$ .

**Problem 5.** Compute  $\int \frac{1}{t^2+2t+5} dt$ .

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**Problem 6.** Compute  $\int \frac{t^2}{(3+4t-4t^2)^{\frac{3}{2}}} dt$ .

**Problem 7.** Compute  $\int \frac{5x+1}{(2x+1)(x-1)} dx$ .

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**Problem 8.** Compute  $\int \frac{x^2+x+1}{(x+1)^2(x+2)} dx$ .



**Problem 9.** Compute  $\int \frac{10}{(x-1)(x^2+9)} dx$ .

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**Problem 10.** Compute  $\int \frac{x^5+x-1}{x^3+1} dx$ .

**Problem 11.** Compute  $\int \frac{x^3 - 2x^2 + 2x - 5}{x^4 + 4x^2 + 3} dx$ .

**Problem 12.** Compute  $\int \frac{dx}{x\sqrt{x-1}}$ .

**Problem 13.** Compute  $\int \frac{dx}{x^2+x\sqrt{x}}$ .

**Problem 14.** Compute  $\int \frac{e^{2x}}{e^{2x}+3e^x+2} dx$ .