

Students are expected to complete homework assignments on their own before referring to the following pages. The answers and hints are designed to check work and clarify problems. The original intent of the layout was for display in class after assignments had been completed. Students should use the following information as help to understand the exercises and master the concepts.

Calculus C

Chapters 7 & 8

Even Answers & Hints
for Homework

Ch. 7 Even Answers and Ch. 8 Setup Answers

7.1 Even Answers

$$(52) \int x^4 e^x dx = e^x(x^4 - 4x^3 + 12x^2 - 24x + 24) + C$$

7.3 Even Answers

$$(24) \int \frac{1}{\sqrt{t^2 - 6t + 13}} dt = \ln|\sqrt{t^2 - 6t + 13} + t - 3| + C$$

$$\text{note: } t^2 - 6t + 13 = (t - 3)^2 + 2^2$$

Larson 7.7 - L'Hôpital's Rule Even Answers

$$(32) e^2 \quad (34) e \quad (36) 1 \quad (44) 0 \quad (46) 0$$

8.1 Setup Answers

$$(3) s = \int_0^{2\pi} \sqrt{1 + \sin^2 x} dx$$

$$(5) s = \int_1^4 \sqrt{9y^4 + 6y^2 + 2} dy$$

$$(15) s = \int_0^{1/2} \sqrt{1 + \frac{4x^2}{(1-x^2)^2}} dx \quad \leftarrow \text{okay}$$

$$= \int_0^{1/2} \sqrt{\left(\frac{1+x^2}{1-x^2}\right)^2} dx = \int_0^{1/2} \left(-1 + \frac{1}{1+x} + \frac{1}{1-x}\right) dx$$

Partial Fractions

$$(17) s = \int_0^1 \sqrt{1 + e^{2x}} dx$$

8.2 Setup Answers

(1) and (3) in back of book

$$(9) S = 2\pi \int_0^1 \sin \pi x \sqrt{1 + \pi^2 \cos^2(\pi x)} dx$$