

Find the antiderivative or value of the definite integral as appropriate. You must show your work to get credit.

p.457, #8  $\int x^2 \cos(mx) dx$ . Hint: Integration by parts.

p.457, #28  $\int_1^2 \frac{(\ln x)^2}{x^3} dx$ . Hint: First make the substitution  $u = \ln x$ , then try integration by parts.

p.465, #16  $\int \cos \theta \cos^5(\sin \theta) d\theta$ .

p.468, #38  $\int_{\pi/4}^{\pi/2} \cot^3 x dx$ .

p.472, #6  $\int_1^2 \frac{\sqrt{x^2 - 1}}{x} dx$ . Hint: Try a trig. substitution.