

Resolve each integral below using integration by parts, substitution, trig. identities or the special trig. integrals discussed in exploration 14 (or a combination of these). You *must* clearly and neatly show your work to get credit.

1. $\int x^3 \ln x \, dx$

2. $\int \cos^2 3x \, dx$

3. $\int \tan^3 x \sec x \, dx$