Read each question carefully and be sure to SHOW ALL WORK. Correct answer without proper justification will not receive a "Complete" grade. Paç fat! Good luck!

Name: _____

LO 11. Integration By Parts. I can use integration by parts to solve integrals.

Criteria for Success: I can

- identify u and dv for applying integration by parts
- use the integration by parts formula to trade a harder integral with an easier one

Question: Consider the integral $\int x^3 \cos(2x^2)dx$.

(a) Let $u = \cos(2x^2)$, $dv = x^3dx$ and apply integration by parts once. Do not try to solve the integral you get.

$$\int x^3 \cos(2x^2)dx =$$

(b) Let $u = x^2$, $dv = x\cos(2x^2)dx$ and apply integration by parts once. Do not try to solve the integral you get.

$$\int x^3 \cos(2x^2)dx =$$

(c) Use one of the above methods in part (a) or (b) to finish computing the integral.

$$\int x^3 \cos(2x^2)dx =$$