

Read each question carefully and be sure to SHOW ALL WORK. Correct answer without proper justification will not receive a “Complete” grade. Pac 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 $\int 2x^3 \sin(x^2) dx$.

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

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

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

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

- (c) Use one of the above methods to fully solve this integral.

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