

You will have 3 points by writing your name on the quiz, so I know you come. Justify your answers algebraically whenever possible; please do not use calculators.

You have 15 minutes to take this 20 point quiz.

1. (*4 points*) $\int x e^2 dx =$

Comment: This one is trivial.

2. (*5 points*) $\int \sin^2 x dx = \frac{x}{2} - \frac{1}{4} \sin 2x + C$

Comment: Use the trig identity $\cos 2x = 1 - 2 \sin^2 x$, or use integration by part.

3. (*8 points*) $\int e^x \sin 2x dx = \frac{e^x (\sin 2x - 2 \cos 2x)}{5} + C$

Comment: Use integration by part twice but be careful with the constants.