

Today's Plan:

Learning Target (standard): I will integrate transcendental and non-transcendental functions.

Students will: Complete practice problems over previous concepts at the boards and take a quiz.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide quiz problems.

Assessment: Board work, homework check and quiz

Differentiation: Students will work at the board, go over and correct homework at their seats and actively engage in quiz problems.

Evaluate.

$$\begin{aligned}\int (2 \cos x - \sqrt{e^{2x}}) dx &= 2 \int \cos x dx - \int (e^{2x})^{\frac{1}{2}} dx \\ &= 2 \int \cos x dx - \int e^x dx \\ &= 2 \sin x - e^x + C\end{aligned}$$

Evaluate.

$$\begin{aligned}\int_0^2 \left(\frac{e^{2x} - 2e^{3x}}{e^{3x}} \right) dx &= \int_0^2 e^{-3x} (e^{2x} - 2e^{3x}) dx \\ &= \int_0^2 (e^{-x} - 2) dx \\ &= (-e^{-x} - 2x) \Big|_0^2 \\ &= (-e^{-2} - 4) - (-e^0 - 0) \\ &= -\frac{1}{e^2} - 4 + 1 \\ &= -\frac{1}{e^2} - 3\end{aligned}$$