

Name _____ Score _____ Teacher _____ Date _____

Trigonometric Powers and Products

Choose an identity from the parity pattern, show the substitution or power reduction, and give an exact antiderivative or definite value.

1. Evaluate integral: $2 \sin(x)^2 dx$. Hint: use power-reduction identities.

2. Evaluate integral from 0 to $\pi/4$: $2 \sec(x)^1 \tan(x)^3 dx$. Hint: save $\sec(x)\tan(x) dx$.

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Choose an identity from the parity pattern, show the substitution or power reduction, and give an exact antiderivative or definite value.

3. Evaluate integral: $3 \sin(x)^3 \cos(x)^2 dx$. Hint: save one $\sin(x)$ dx.

4. Evaluate integral from 0 to $\pi/4$: $5 \sec(x)^4 \tan(x)^4 dx$. Hint: save $\sec(x)^2 dx$.

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Choose an identity from the parity pattern, show the substitution or power reduction, and give an exact antiderivative or definite value.

5. Evaluate integral: $5 \sec(x)^3 \tan(x)^3 dx$. Hint: save $\sec(x)\tan(x)$ dx.

6. Evaluate integral from 0 to $\pi/4$: $4 \sec(x)^4 \tan(x)^2 dx$. Hint: save $\sec(x)^2 dx$.
