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1 $\frac{1}{2} \frac{d}{dt} (u^2) = u \frac{du}{dt} = u \frac{d}{dt} (u^2)^{\frac{1}{2}}$

2 $= \frac{1}{2} \frac{d}{dt} (u^2) = \frac{1}{2} \frac{d}{dt} (u^2)$

3 $\frac{1}{2} \frac{d}{dt} (u^2) = \frac{1}{2} \frac{d}{dt} (u^2)$

1 $\frac{1}{2}$ $\frac{1}{2}$ m $\frac{1}{2}$ $\frac{1}{2}$, $\frac{1}{2}$ $\frac{1}{2}$

2 m u $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$

2 $\frac{1}{2}$ $\frac{1}{2}$ u $\frac{1}{2}$ $\frac{1}{2}$ 0 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$

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2. $\frac{1}{m} \frac{d}{dt} \left(m \frac{dx}{dt} \right) = u$, $m \frac{dx}{dt} = \int u dt + C$

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