

## 7.1 Substitution (Undoing the Chain Rule)

- Try to find  $w$  so that  $dw$  is in  $\int$
- Often helpful to choose  $w$  “inside” of some other function
- You can always check an antiderivative by differentiating
- $w$ -sub vs.  $u$ -sub

What I want you to show me...  $w$ ,  $dw$ ,  $\int$  with respect to  $w$



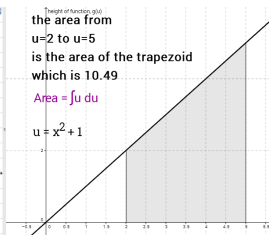
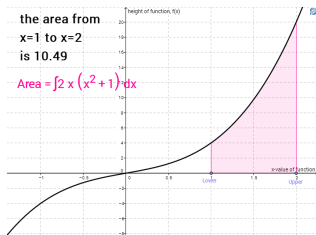
It's hard getting dumped by a mathematician.



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## *Grading and Policies*

- Participation 5%  
attendance ( $> 6$  days=F), class activities, office hours, ASULearn
- Online Practice Problems 20%
- Quizzes 15%
- 3 Tests 60%

No late work, but accommodations for emergencies with documentation.

## Where to Get Help

- Class
- Office hours
- Math lab
- ASULearn (Discussion Forums)
- Google *Dr. Sarah* for course calendar

I care about you and your success!



## Clicker Question

1. Which of the integrals can be converted to the form  $\int w^n dw$  by a substitution, where  $n$  is a constant?

a)  $\int x \sin(x^2) dx$

b)  $\int \frac{1}{x \ln(x)} dx$

c) Both of the above

d) None of the above

## Clicker Question

2. Which of the integrals can be converted to the form  $\int w^n dw$  by a substitution, where  $n$  is a constant?

a)  $\int \frac{e^x - e^{-x}}{(e^x - e^{-x})^3} dx$

b)  $\int \frac{\sin(x)}{x} dx$

c) Both of the above

d) None of the above