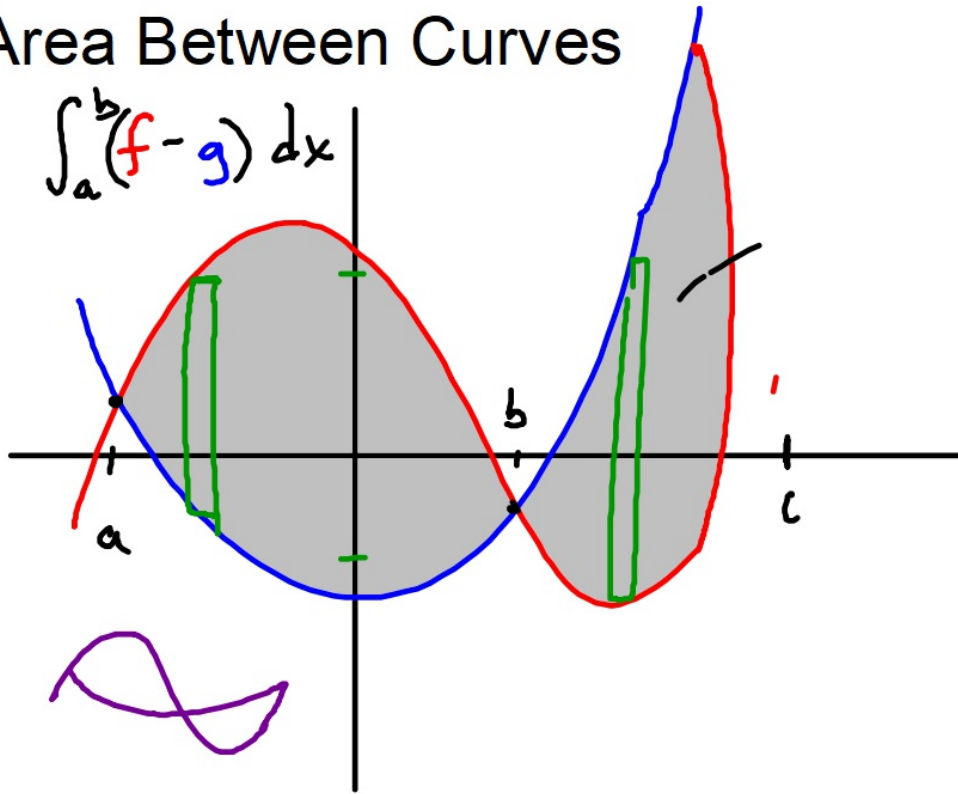
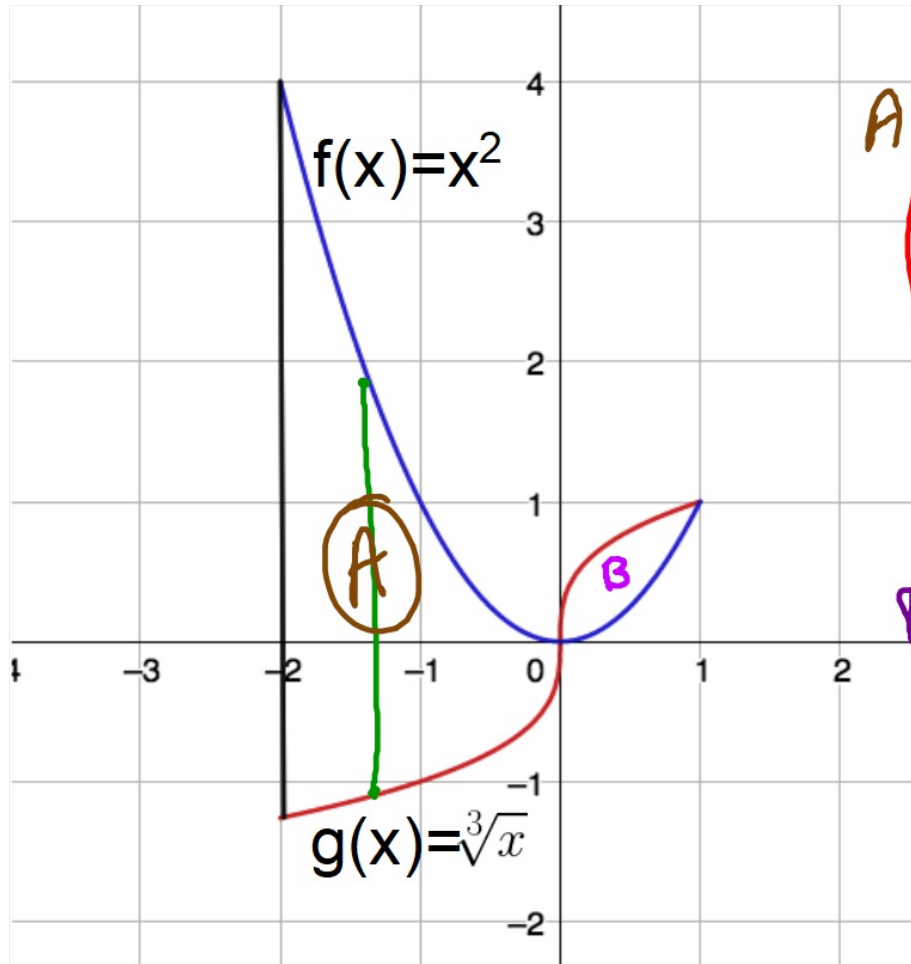


Area Between Curves

$$\int_a^b (f - g) dx$$



$$\int_b^c (g - f) dx$$



$$A = \int_{-2}^0 x^2 - x^{1/3} dx$$

$$\left[\frac{x^3}{3} - \frac{3}{4} x^{4/3} \right]_{-2}^0$$

4.557

$$B = \int_0^1 x^{1/3} - x^2 dx$$

$$\left[\frac{3}{4} x^{4/3} - \frac{1}{3} x^3 \right]_0^1 = .417$$

A+B = 4.974

$$(x^2)^3 = (x^{1/3})^3$$

$$x^6 = x$$

$$x^6 - x = 0$$

$$x(x^5 - 1) = 0$$

\downarrow \downarrow
 $x=0$ $x=1$

Intersection points by hand?

**set functions equal to each other,
solve for x by gathering terms on one side,
factoring, setting factors = 0**

Intersection points by calc?

**put functions into Y1 and Y2 in calculator
use **2nd** **TRACE**(calc menu) **5**INTERSECT**

How much work to show?

take the antiderivative (reverse power rule, etc.)

actually plugging in the upper and lower bounds

can be monotonous, so you can evaluate with **MATH**+9

Good afternoon

We will randomize when the bell rings, then you'll have ~20 min to study, finish practice test, ask questions, etc.

HW

due Friday: #1-6 on area between curves handout

due Monday: 2003 AP Test Mult Choice no calculator section

#12 and #27 are doable but we'll cover the topics later

Assessment

- do your best
- use your divider
- show all work, use extra paper if needed (staple it to test)

Finished?

turn in test (with extra paper if necessary) and divider, then pick up 2 things from 'anchor' area in back of room:

- Area between curves handout (#1-6 due Friday)
- 2003 AP Mult Choice No Calc section (due Monday)

Work on either one til 4p

