AP Calculus AB

Thursday, May 2, 2013

Review on Sunday HERE at 5pm....over by 7 at the latest.

You should be practicing your rules EVERY DAY

Rework the quizzes for FULL CREDIT.

Evaluate: $\int_{-1}^{2} \frac{1}{2x+3}\,dx$

$y - y_1 = m(x - x_1)$

words → $r(5) = 30 \longrightarrow$ point (x, y)

table: $r'(5) = 2.0 \longrightarrow$ slope

$r(5.4) - 30 = 2(t - 5)$

$r(5.4) - 30 = 2(5.4 - 5)$

$r(5.4) - 30 = 2(.4)$

$r(5.4) = 30.8$ feet

$r''(t) < 0$ on $0 < t < 12$ $\therefore$ $r(5.4)$ is an over-estimate.

(b) $V = \frac{4}{3}\pi r^3$

$\frac{dV}{dt} = 4\pi r^2 \left(\frac{dr}{dt}\right)$

$\left.\begin{matrix} r(5) = 30 \\ r'(5) = 2.0 \end{matrix}\right\}$ Given

$\frac{dV}{dt} = 4\pi(30)^2(2)\ \frac{ft^3}{min}$

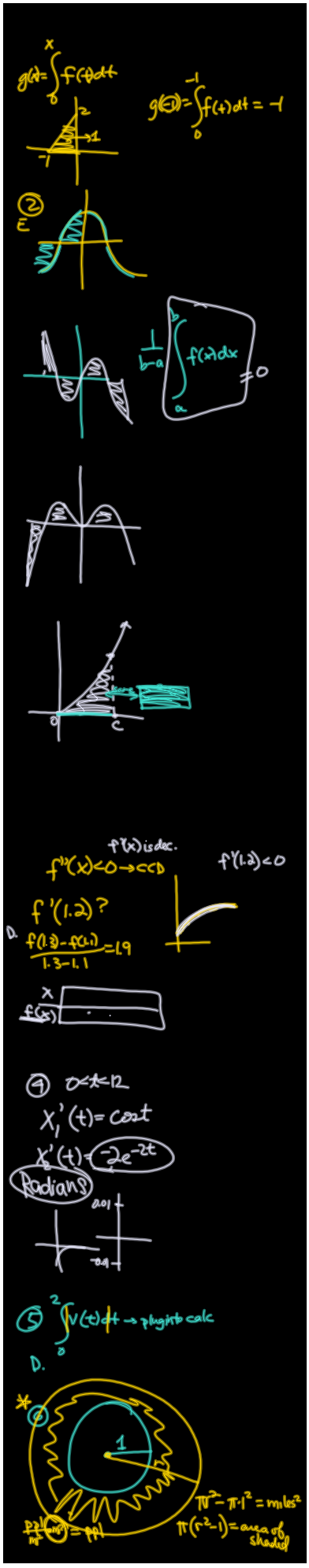
(c) $\int_0^{12} r'(t)\,dt = 4(2) + 2(3) + 2(1.2) + 0.6(4) + 0.5(1)$ ft

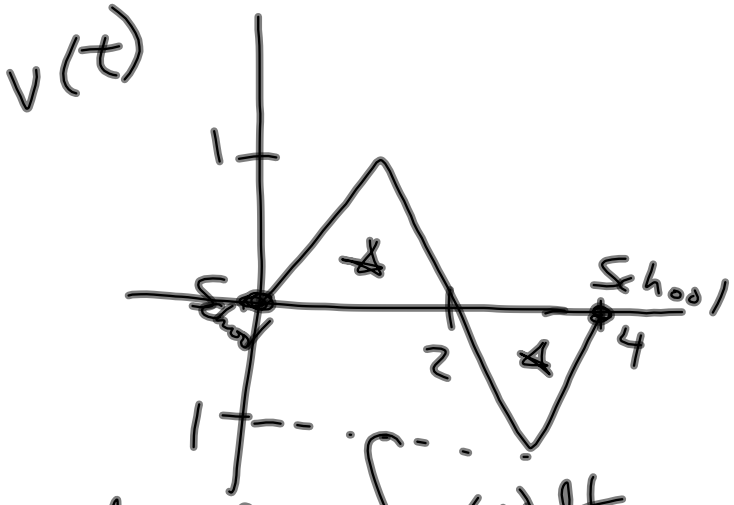
This is the change in radius over $0 < t < 12$.

(d) $r''(t) < 0$ on $0 < t < 12$ $\therefore$

$r'(t)$ is decreasing on $0 < t < 12$.

$\int_0^{12} r'(t)\,dt$ is an under-estimate.


$g(x)=\int_0^x f(t)dt$
$g(-1)=\int_0^{-1} f(t)dt = -1$
2
1
-1
②
$\frac{1}{b-a}\int_a^b f(x)dx \neq 0$
a
b
c
f'(x) is dec.
$f''(x)<0 \rightarrow$ <0
f'(1.2)<0
f'(1.2)?
D.
$\frac{f(1.3)-f(1.1)}{1.3-1.1}=L9$
x
f(x)
④ $0<t<12$
$X_1'(t)=cost$
$X_2'(t)=-2e^{-2t}$
Radians
0.01
-0.01
⑤ $\int_0^2 v(t)dt \rightarrow$ plug into calc
D.
*
1
$\pi 2^2-\pi\cdot 1^2=$ miles^2
$\pi(r^2-1)=$ area of shaded



$$\text{displ} = \int v(t)\,dt$$

$$\text{dist} = \int |v(t)|\,dt$$

MATH : NUM : Abs