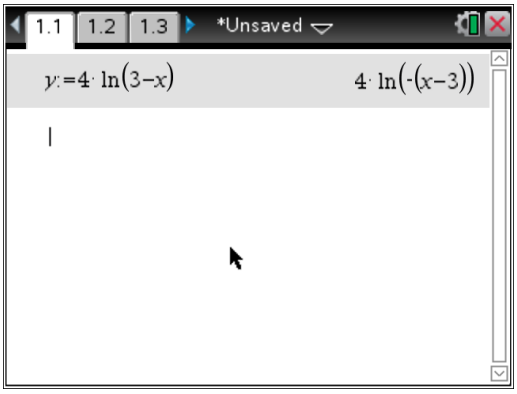
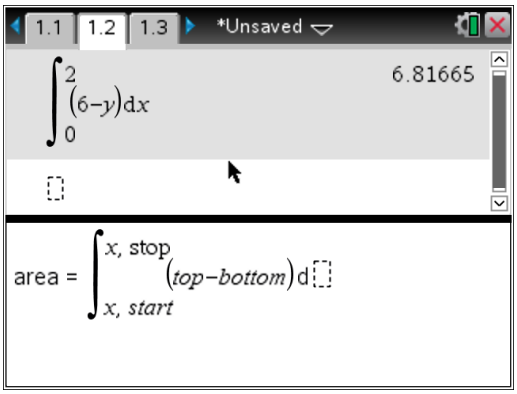
AP Calculus
Technology Tuesday #4 Calculator Solutions

Name: _____
Date: _____ Per: _____

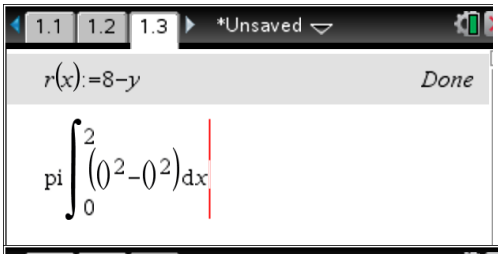
1)

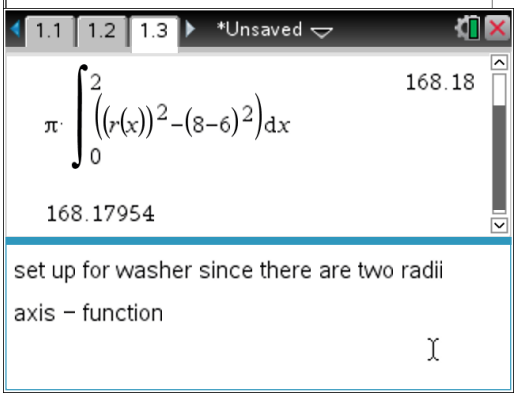


a.

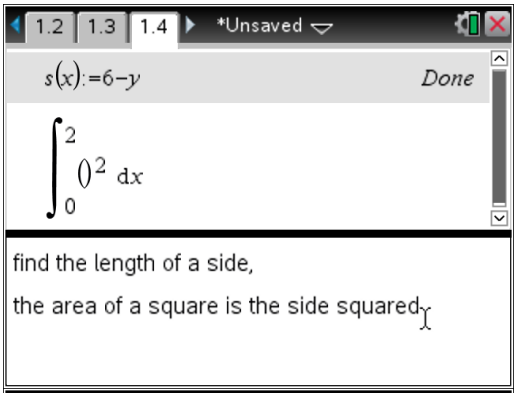


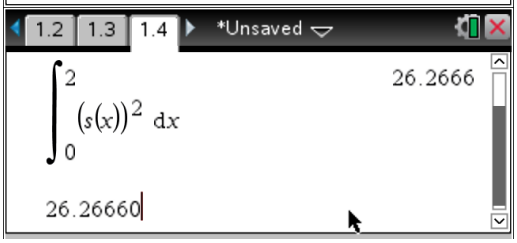
b.



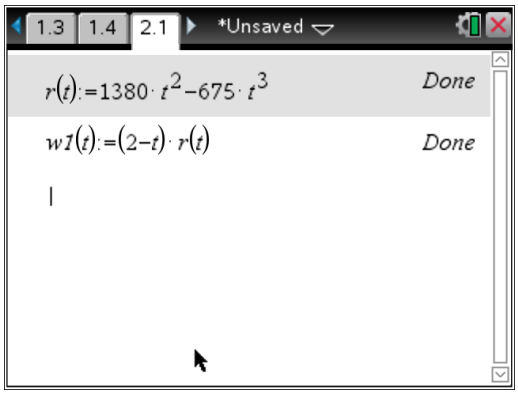


c.

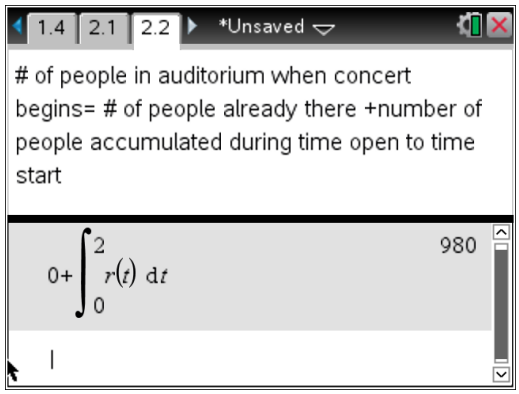




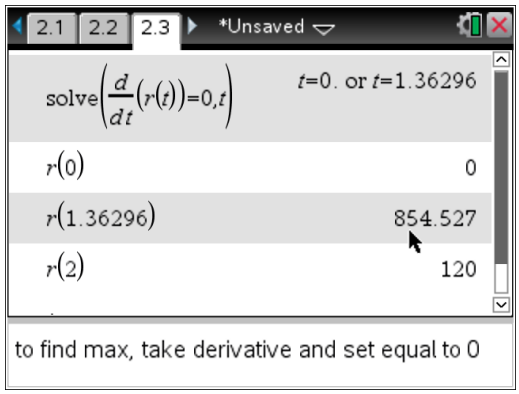
2)


1.3 1.4 2.1 *Unsaved
r(t):=1380·t^2−675·t^3 Done
w1(t):=(2−t)·r(t) Done

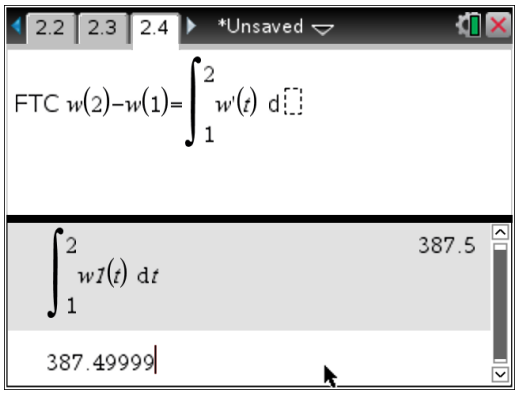
a.


1.4 2.1 2.2 *Unsaved
# of people in auditorium when concert begins= # of people already there +number of people accumulated during time open to time start
0+∫ from 0 to 2 r(t) dt 980

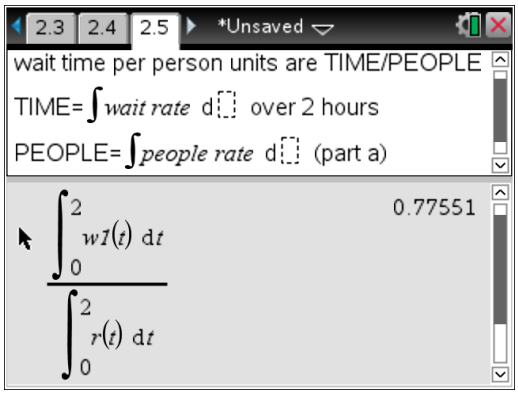
b.


2.1 2.2 2.3 *Unsaved
solve(d/dt(r(t))=0,t) t=0. or t=1.36296
r(0) 0
r(1.36296) 854.527
r(2) 120
to find max, take derivative and set equal to 0

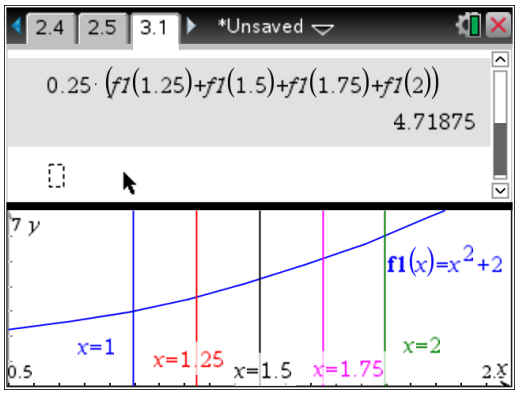
c.


2.2 2.3 2.4 *Unsaved
FTC w(2)−w(1)=∫ from 1 to 2 w'(t) d
∫ from 1 to 2 w1(t) dt 387.5
387.49999

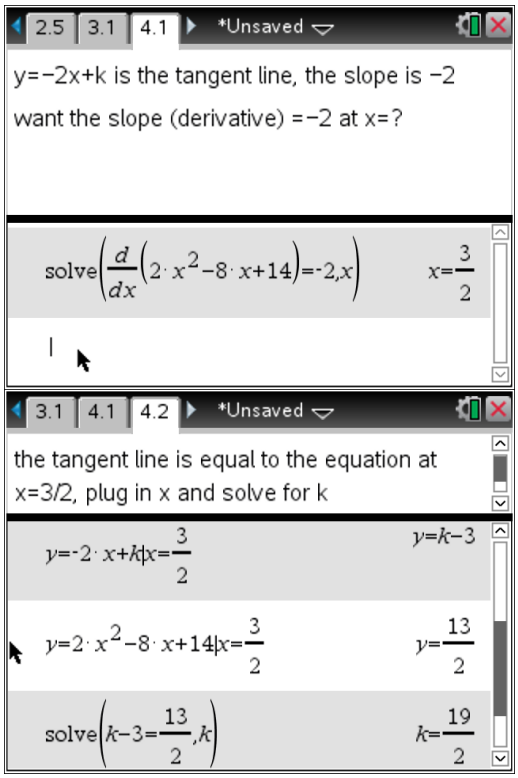
d.


2.3 2.4 2.5 *Unsaved
wait time per person units are TIME/PEOPLE
TIME=∫ wait rate d over 2 hours
PEOPLE=∫ people rate d (part a)
(∫ from 0 to 2 w1(t) dt)/(∫ from 0 to 2 r(t) dt) 0.77551

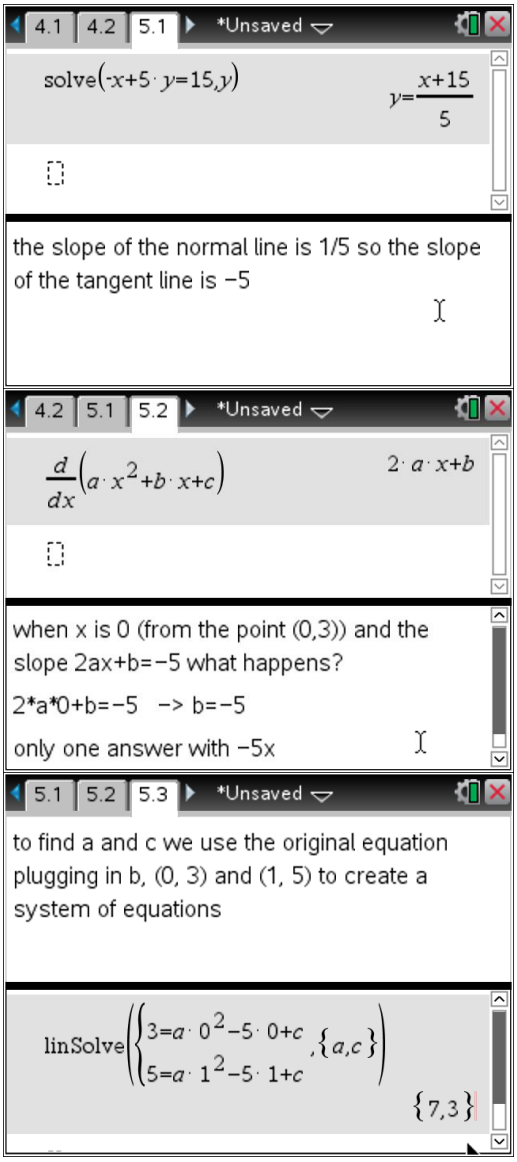
3)



4)



5)



to solve the linear system menu->algebra->solve systems->solve system of equations using 2 variables, a and c. for the first equation plug in (0, 3) and the second plug in (1, 5)