

HW 6

Please give complete, well written solutions to the following exercises.

For the problems from the book, please make sure you solve the right problems by looking up the problem numbers on your EBook that comes with your web assign. The EBook is the latest (2nd) edition.

1. Section 2.6 #12.
2. Section 2.6 #30. (for part (c) you may use wolframalpha.com to see what the function looks like and sketch the curve by hand in your HW. You must sketch the points and tangent lines found in part (b).

(Please note that the following problem is section 2.8. There is no HW problem from section 2.7.)

3. Section 2.8
 - (a) Show that the local linear approximation of the function $f(x) = (1+x)^{15}$ is $1+15x$ near $x=0$, meaning $(1+x)^{15} \approx (1+15x)$, when x is near 0.
 - (b) Find approximate value of $\cos(31^\circ)$ using linear approximation method (this is \cos of 31 degrees - and $1^\circ = \frac{\pi}{180}$ radians.)