

AP:

Homework
10/30 – 11/3

on: Tuesday: test

due: Wednesday: read pp. 246-249
pg. 251 / #7d, 8, 9ab, 11

Thursday:

1. pp. 251-252 / #13, 19, 23
2. pg. 255 / #2
3. The radius of a sphere is increasing at a constant rate of .04cm/sec.
($V = \frac{4}{3}\pi r^3$)
 - a. At the time when the radius of the sphere is 10cm, what is the rate of increase of the volume?
 - b. At the time when the volume is $36\pi\text{cm}^3$, what is the rate of increase of the area of a cross section through the center of the sphere?
 - c. At the time when the volume and the radius of the sphere have the same numerical rate of increase, what is the radius?

on: Thursday: quiz

due: Monday: read pp. 205-207

1. Determine all relative extrema. Find on what intervals the functions are increasing and on what intervals the functions are decreasing:
 - a. $f(x) = 2x^4 - 4x^2 + 1$
 - b. $f(x) = x^{2/3} - x$
2. pg. 215 / #24
3. If $f'(x) = x^2 + x - 12$, then f is decreasing on what interval(s)?
4. Let f be a function whose domain is $[-3,4]$ and let the derivative of f have the graph shown. On what interval(s) is the graph of f increasing?

