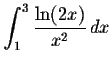
Evaluate the following integrals using the correct techniques

1. $\displaystyle \int\frac{2x-1}{x^2-2x+10}\,dx $
2. $\displaystyle \int \sqrt{9-4x^2}\,dx $
3. $\displaystyle \int\arcsin (x-1)\,dx $
4. 
5. $\displaystyle \int e^{-2t}\cos t\,dt $
6. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B0%7D%5E%7B%5Cpi%7D%5Csin%20x%5C%20dx
7. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cfrac%7B9r%5E%7B2%7Ddr%7D%7B%5Csqrt%7B1-r%5E%7B3%7D%7D%7D
8. http://latex.codecogs.com/gif.latex?%5Cint%20x%5Ccos%203xdx
9. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%20x%5E%7B3%7D%5Cleft%28x%5E%7B4%7D-1%5Cright%29%5E%7B2%7D%5C%20dx
10. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%203y%5Csqrt%7B7-3y%5E%7B2%7D%7D%5C%20dy
11. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Ccos%5Cleft%283z%2B4%5Cright%29%20dz
12. http://latex.codecogs.com/gif.latex?%5Cint%20t%5Csin%20tdt
13. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%2028%5Cleft%287x-2%5Cright%29%5E%7B-5%7D%5C%20dx
14. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%20x%5E%7B1%2F3%7D%5Csin%5Cleft%28x%5E%7B4%2F3%7D-8%5Cright%29%5C%20dx
15. http://latex.codecogs.com/gif.latex?%5Cint%20x%5Cln%20xdx
16. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%208%5Ctheta%5Csqrt%5B3%5D%7B%5Ctheta%5E%7B2%7D-1%7D%5C%20d%5Ctheta
17. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B0%7D%5E%7B1%7D%5Cleft%28x%5E%7B2%7D%2B%5Csqrt%7Bx%7D%5Cright%29dx
18. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B%5Cpi%2F4%7D%5E%7B3%5Cpi%2F4%7D%5Ccsc%5Ctheta%5Ccot%5Ctheta%20%5C%20d%5Ctheta
19. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B1%7D%5E%7B%5Csqrt%7B2%7D%7D%5Cfrac%7Bs%5E%7B2%7D%2B%5Csqrt%7Bs%7D%7D%7Bs%5E%7B2%7D%7D%20ds
20. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cfrac%7B3%7D%7B%5Cleft%282-x%5Cright%29%5E%7B2%7D%7D%5C%20dx
21. http://latex.codecogs.com/gif.latex?%5Cint%5Cfrac%7Bx%5E%7B2%7D%7D%7B%5Csqrt%7B16-x%5E%7B2%7D%7D%7Ddx
22. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B%5Cpi%2F2%7D%5E%7B0%7D%5Cfrac%7B1%2B%5Ccos%202t%7D%7B2%7Ddt
23. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Csec%202t%5Ctan%202t%20%5C%20dt
24. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Csin%5Cleft%288z-5%5Cright%29%5C%20dz
25. http://latex.codecogs.com/gif.latex?%5Cint%5Cfrac%7B1%7D%7B%5Cleft%20%289-16x%5E%7B2%7D%5Cright%20%29%5E%7B3%2F2%7D%7Ddx
26. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cfrac%7B9r%5E%7B2%7Ddr%7D%7B%5Csqrt%7B1-r%5E%7B3%7D%7D%7D
27. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cfrac%7B6%5Ccos%20t%7D%7B%5Cleft%282%2B%5Csin%20t%5Cright%29%5E%7B3%7D%7D%20dt
28. http://latex.codecogs.com/gif.latex?%5Cint%20xe%5E%7B2x%7Ddx
29. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cfrac%7B1%7D%7B%5Csqrt%7B16-x%5E%7B2%7D%7D%7Ddx
30. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B0%7D%5E%7B4%7D%5Cleft%283x-%5Cfrac%7Bx%5E%7B3%7D%7D%7B4%7D%5Cright%29dx
31. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B0%7D%5E%7B%5Cpi%2F3%7D2%5Csec%5E%7B2%7Dx%5C%20dx
32. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cleft%282x%2B1%5Cright%29%5E%7B3%7D%5C%20dx
33. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%20r%5E%7B2%7D%5Cleft%28%5Cfrac%7Br%5E%7B3%7D%7D%7B18%7D-1%5Cright%29%5E%7B5%7D%20dr
34. http://latex.codecogs.com/gif.latex?%5Cint%20t%28%5Cln%20t%29%5E%7B2%7Ddt
35. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%20x%5E%7B1%2F2%7D%5Csin%5Cleft%28x%5E%7B3%2F2%7D%2B1%5Cright%29%5C%20dx
36. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cfrac%7B%5Csin%5Csqrt%7B%5Ctheta%7D%7D%7B%5Csqrt%7B%5Ctheta%5Ccos%5E%7B3%7D%5Csqrt%7B%5Ctheta%7D%7D%7Dd%5Ctheta
37. http://latex.codecogs.com/gif.latex?%5Cint%5Cfrac%7Bx%5E%7B2%7D%7D%7B%5Csqrt%7B16-x%5E%7B2%7D%7D%7Ddx
38. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B-%5Cpi%2F3%7D%5E%7B-%5Cpi%2F4%7D%5Cleft%284%5Csec%5E%7B2%7Dt%2B%5Cfrac%7B%5Cpi%7D%7Bt%5E%7B2%7D%7D%5Cright%29dt
39. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cfrac%7B4y%5C%20dy%7D%7B%5Csqrt%7B2y%5E%7B2%7D%2B1%7D%7D
40. http://latex.codecogs.com/gif.latex?%5Cint%20%5Carctan%20xdx
41. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B0%7D%5E%7B4%7D%5Cleft%283x-%5Cfrac%7Bx%5E%7B3%7D%7D%7B4%7D%5Cright%29dx
42. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint_%7B0%7D%5E%7B%5Cpi%2F3%7D2%5Csec%5E%7B2%7Dx%5C%20dx
43. http://latex.codecogs.com/gif.latex?%5Cdisplaystyle%20%5Cint%5Cleft%282x%2B1%5Cright%29%5E%7B3%7D%5C%20dx
44. http://tutorial.math.lamar.edu/Problems/CalcI/SubstitutionRuleDefinite_files/eq0002M.gif
45. http://tutorial.math.lamar.edu/Problems/CalcI/SubstitutionRuleDefinite_files/eq0005M.gif
46. http://tutorial.math.lamar.edu/Problems/CalcI/SubstitutionRuleDefinite_files/eq0008M.gif

Determine the critical points of each of the following functions.

1. http://tutorial.math.lamar.edu/Problems/CalcI/CriticalPoints_files/eq0001M.gif
2. http://tutorial.math.lamar.edu/Problems/CalcI/CriticalPoints_files/eq0011M.gif
3. http://tutorial.math.lamar.edu/Problems/CalcI/CriticalPoints_files/eq0006M.gif
4. http://tutorial.math.lamar.edu/Problems/CalcI/CriticalPoints_files/eq0005M.gif