Practice Differentiation Problems

1. $\frac{d}{dx}(2+\sqrt{3}) =$ _____
2. $\frac{d}{dx}(3x-1) =$ _____
3. $\frac{d}{dt}(3-4t) =$ _____
4. $\frac{d}{dt}\frac{t}{3} =$ _____
5. $\frac{d}{du}\frac{2u-1}{5} =$ _____
6. $\frac{d}{du}\frac{5-6u}{2} =$ _____
7. $\frac{d}{dv}2(3v-1)^3 =$ _____
8. $\frac{d}{dv}4\sqrt{v-2} =$ _____
9. $\frac{d}{dw}5(2-3w)^5 =$ _____
10. $\frac{d}{dw}2\sqrt{1-w}^3 =$ _____
11. $\frac{d}{dx}\left(\frac{x}{3}-2\right)^3 =$ _____
12. $\frac{d}{dx}\frac{4}{3x+1} =$ _____
13. $\frac{d}{dr}\frac{2}{(2r+3)^3} =$ _____
14. $\frac{d}{dr}\frac{3}{\sqrt{2r-5}} =$ _____
15. $\frac{d}{dt}\left(3t^3-t^2\right) =$ _____
16. $\frac{d}{dt}t^2 =$ _____
17. $\frac{d}{du}\left(4-u^2\right) =$ _____
18. $\frac{d}{du}\left(6u-u^3\right) =$ _____
19. $\frac{d}{dv}\frac{1-3v^2}{2} =$ _____
20. $\frac{d}{dv}v(v-1) =$ _____
21. $\frac{d}{dw}(w^2-1)^2 =$ _____
22. $\frac{d}{dw}(2-w^2)^3 =$ _____
23. $\frac{d}{dt}\sqrt{t^2-1} =$ _____
24. $\frac{d}{dt}4\sqrt{t^2-t+1} =$ _____
25. $\frac{d}{dp}\frac{3}{p^2+3} =$ _____
26. $\frac{d}{dp}\frac{5}{\sqrt{p^2+2}} =$ _____
27. $\frac{d}{dx}3\ln(3x-1) =$ _____
28. $\frac{d}{dx}2\ln(5-2x) =$ _____
29. $\frac{d}{dx}2\,\mathrm{e}^{4x} =$ _____
30. $\frac{d}{dx}3\,\mathrm{e}^{-2x} =$ _____
31. $\frac{d}{dr}12\,\mathrm{e}^{r/4} =$ _____
32. $\frac{d}{dr}5\,\mathrm{e}^{-r/2} =$ _____
33. $\frac{d}{du}\left[5-2\ln(u/2)\right] =$ _____
34. $\frac{d}{du}\left[6+3\ln(4-x)\right] =$ _____
35. $\frac{d}{dv}(v^3+3v) =$ _____
36. $\frac{d}{dv}(2v^2+v-1) =$ _____
37. $\frac{d}{dw}\left(w^2-\frac{1}{w^2}\right) =$ _____
38. $\frac{d}{dw}\left(4w^2-w+2\right) =$ _____
39. $\frac{d}{dx}x\ln(x) =$ _____
40. $\frac{d}{dx}x\ln(x+1) =$ _____
41. $\frac{d}{dr}r^2\ln(r) =$ _____
42. $\frac{d}{dr}r\,\mathrm{e}^{2r} =$ _____
43. $\frac{d}{dt}t\ln(t^2+1) =$ _____
44. $\frac{d}{dt}t\ln(5-t) =$ _____
45. $\frac{d}{du}u^2\,\mathrm{e}^{3u} =$ _____
46. $\frac{d}{du}2u\,\mathrm{e}^{-u/2} =$ _____
47. $\frac{d}{dv}\frac{\ln(3v)}{v} =$ _____
48. $\frac{d}{dv}\frac{\mathrm{e}^{v/4}}{6v^2} =$ _____
49. $\frac{d}{dw}\frac{\ln(w+1)}{w} =$ _____
50. $\frac{d}{dw}\frac{\mathrm{e}^{3w}}{w^2} =$ _____