Betsy McCall

Single Variable Integration Review Name _____

Integrate each of the integrals below. Simplify each expression as much as possible.

1. $\int 2x^2 - 1 + x^{-1} dx$
2. $\int \frac{x^3-2x+7}{x^2} dx$
3. $\int 5\sin(x) + 3\cos(x) - 2sec^2(x)\, dx$
4. $\int e^t + \frac{2}{\sqrt[3]{t}} dt$
5. $\int t\sqrt{t} - \tan(t)\, dt$
6. $\int (s^2+1)^3 ds$
7. $\int sin^3(q)\cos(q) dq$
8. $\int (x+1)5^{(x+1)^2} dx$
9. $\int \frac{2^{1/s}}{s^2} ds$
10. $\int \frac{1}{\sqrt{1-x}} dx$
11. $\int y^2\sqrt{y+1}\, dy$
12. $\int \frac{t\, ln\sqrt{1+t^2}}{1+t^2} dt$
13. $\int \frac{1}{3+25w^2} dw$
14. $\int \frac{\arccos(r)}{\sqrt{1-r^2}} dr$
15. $\int \sqrt{1+sinh^2(s)} ds$
16. $\int \tanh(x)\, dx$
17. $\int 2e^{-x}\cosh(x)\, dx$
18. $\int (u^2-1)e^u\, du$
19. $\int q^e + e^q dq$
20. $\int \arctan(t)\, dt$
21. $\int cos^4(y) dy$
22. $\int \cos(3z)\cos(z)\, dz$
23. $\int e^x \sin(x)\, dx$
24. $\int \alpha\sqrt{\alpha+3} d\alpha$
25. $\int \frac{2x^3-5x^2+4x-4}{x^2-x} dx$
26. $\int \frac{t-28}{t^2-t-6} dt$
27. $\int \frac{sec^2\theta}{tan\theta(tan\theta-1)} d\theta$
28. $\int \sqrt{9-4x^2} dx$