Calculus AB Name_____

Worksheet 29 - Integrals Review

Period____

Evaluate each indefinite integral.

1) $\int \frac{2(-9x^7 + 2)}{x^2}\,dx$

2) $\int 8x^3(-3x^2 + 1)\,dx$

3) $\int (x^5 - 2)^3 \cdot 5x^4\,dx$

4) $\int (x^5 + 4)^5 \cdot 5x^4\,dx$

5) $\int \sec^2 x\,dx$

6) $\int 5\sin x\,dx$

7) $\int -24x^3 \cdot \sec^2(3x^4 - 4)\,dx$

8) $\int -45x^2 \sin(3x^3 - 5)\,dx$

9) $\int -32x\cos(4x^2 + 1)\,dx$

10) $\int x^{-1}\,dx$

11) $\int -2e^{x}\,dx$

12) $\int \frac{1}{1+x^{2}}\,dx$

13) $\int \frac{1}{\sqrt{25-x^{2}}}\,dx$

Use *u* substitution to express each definite integral in terms of *u*. Do not evaluate the integral.

14) $\int_{0}^{1} \frac{12x}{(2x^{2}+1)^{3}}\,dx$

15) $\int_{-1}^{0} 9x^{2}(3x^{3}+2)^{2}\,dx$

Evaluate each definite integral.

16) $\int_{0}^{1} -\frac{4x}{(x^{2}+1)^{2}}\,dx;\ u = x^{2}+1$

17) $\int_{-1}^{2} \frac{4x}{(2x^{2}+1)^{2}}\,dx;\ u = 2x^{2}+1$