積分の計算 **2012-9-28**

組　番 氏名(ふりがな)＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

1. 次の積分を求めよ. 途中の計算式も書くこと.

(1) $\displaystyle\int (3x^5 + x^2 + 3)\,dx$

答. ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

(2) $\displaystyle\int \left(4x^{\frac{1}{3}} + 3x^{\frac{1}{2}} - x^{-\frac{1}{4}}\right)\,dx$

答. ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

(3) $\displaystyle\int x^{\pi}\,dx$

答. ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

(4) $\displaystyle\int (x+2)^4\,dx$

答. ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

(5) $\displaystyle\int \frac{x+x^{\frac{1}{3}}}{\sqrt{x}}\,dx$

答. _____

(6) $\displaystyle\int \frac{x+1}{x}\,dx$

答. _____

(7) $\displaystyle\int x^{\log 13}\,dx$

答. _____

(8) $\displaystyle\int x^{\frac{1}{\pi}}\,dx$

答. _____

2. 次の不定積分を求めよ.

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

答. _____

(2) $\displaystyle\int (3x+5)^7\,dx$

答. _____

(3) $\displaystyle\int \sqrt{2x+1}\,dx$

答. _____

(4) $\displaystyle\int \sqrt[3]{(5x-1)^5}\,dx$

答. _____

(5) $\displaystyle\int \sin(3x+1)\,dx$

答. _____

(6) $\displaystyle\int \frac{1}{(5x+3)^3}\,dx$

答. _____

(7) $\displaystyle\int (3x+1)^{-\frac{2}{3}}\,dx$

答. _____

(8) $\displaystyle\int e^{2x+1}\,dx$

答. _____