復習/広義積分 (微分積分応用演習, 担当: 天野勝利) 　　　　2008 年 7 月 3 日

1. 次の定積分の値を求めよ.

(1) $\displaystyle\int_{-1}^{1} (3x^2 + 2x - 5)\,dx$

(2) $\displaystyle\int_{0}^{\frac{\pi}{6}} \sin 2x\,dx$

(3) $\displaystyle\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \cos \frac{x}{2}\,dx$

(4) $\displaystyle\int_{0}^{\log 2} e^{-x}\,dx$

(5) $\displaystyle\int_{4}^{9} \sqrt{x}\,dx$

(6) $\displaystyle\int_{-\pi}^{\pi} \sin^2 x\,dx$

(7) $\displaystyle\int_{0}^{1} 2x\sqrt{x^2 + 1}\,dx$

(8) $\displaystyle\int_{0}^{\frac{\pi}{2}} \cos^2 x \sin x\,dx$

(9) $\displaystyle\int_{0}^{1} xe^{-x+1}\,dx$

(10) $\displaystyle\int_{\frac{\pi}{2}}^{\pi} x\cos x\,dx$

2. 次の広義積分の値を求めよ.

(1) $\displaystyle\int_{0}^{4} \frac{1}{\sqrt{x}}\,dx$

(2) $\displaystyle\int_{1}^{\infty} \frac{2}{x^3}\,dx$

(3) $\displaystyle\int_{0}^{1} \log x\,dx$

学籍番号	氏名