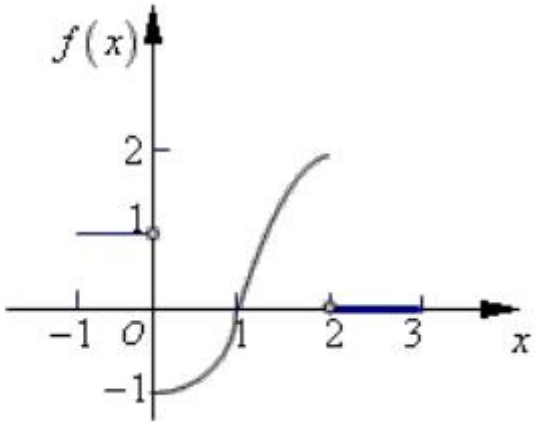
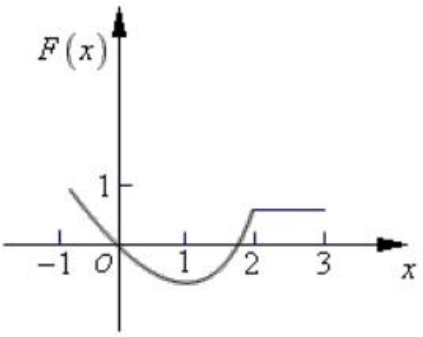
(2009)设函数 $y=f(x)$ 在区间 $[-1,3]$ 上的图形为

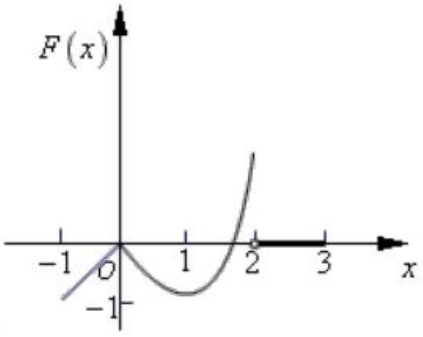


则函数 $F(x)=\int_0^x f(t)dt$ 的图形为　　（　　）

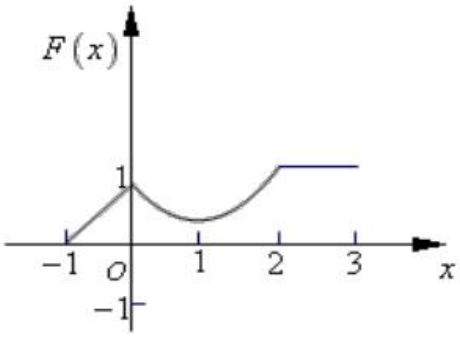
(A)



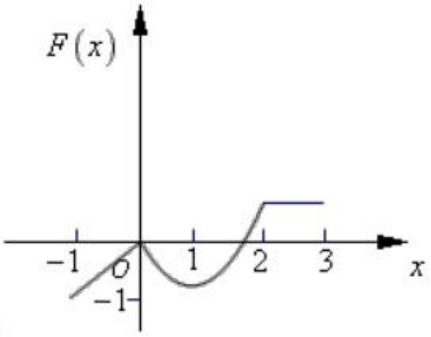
(B)



(C)



(D)



(2010) $\int_0^{\pi^2} \sqrt{x}\cos\sqrt{x}dx$ =_____.

（2014）设$\int_0^a xe^{2x}dx=\frac{1}{4}$，则$a=$_____.

（2014）求下列定积分：

（1）$\int_{-\infty}^{1}\frac{1}{x^2+2x+5}dx$　　（2）$\int_{0}^{+\infty}xe^{-x^2}dx$　　（3）$\int_{0}^{+\infty}\frac{\arctan x}{1+x^2}dx$