

## AREA BOUNDED BY THE CURVES

1. The area region bounded by the parabolas  $y^2=4ax$  and  $x^2=4ay$  is
 

a)  $\frac{16a^2}{3}$                       b)  $\frac{32a^2}{3}$                       c)  $\frac{9a^2}{2}$                       d) none
2. The area enclosed between the parabolas  $y^2=4x$  and  $x^2=4y$  is
 

a)  $\frac{3}{4}$  sq units                      b) 16 sq units                      c)  $\frac{16}{3}$  sq units                      d)  $\frac{32a^2}{3}$  sq units
3. The area enclosed between the parabolas  $y^2=6x$  and  $x^2=6y$  is
 

a) 12 sq units                      b)  $\frac{16}{3}$  sq units                      c) 36 sq units                      d) none of these
4. The area inside the parabola  $y^2=4ax$  between the lines  $x=a$  and  $x=4a$  is
 

a)  $4a^2$                       b)  $28a^2$                       c)  $\frac{28a^2}{3}$                       d)  $\frac{56a^2}{3}$
5. The area bounded by the parabola  $y^2=4ax$  and the line  $x=a$  and  $x=4a$  and  $x$ -axis is
 

a)  $\frac{35a^2}{3}$                       b)  $\frac{4a^2}{3}$                       c)  $\frac{7a^2}{3}$                       d)  $\frac{28a^2}{3}$
6. The area of the figure bounded by  $y=\cos x$  and  $y=\sin x$  and the ordinates  $x=0$  and  $x=\frac{\pi}{4}$  is
 

a)  $\frac{1}{2}(\sqrt{2}-1)$                       b)  $\frac{1}{\sqrt{2}}$                       c)  $\sqrt{2}-1$                       d)  $\sqrt{2}+1$
7. The area bounded by  $y=\log_e x$ , the  $x$ -axis and the line  $x=e$  is
 

a) 1                      b)  $1-\frac{1}{e}$                       c)  $1+\frac{1}{e}$                       d) e
8. The area of the region bounded by the parabola  $y=x^2+1$  and the straight line  $x+y=3$  is given by,
 

a)  $\frac{45}{7}$                       b)  $\frac{25}{4}$                       c)  $\frac{\pi}{18}$                       d)  $\frac{9}{2}$
9. The area of portion of the circle  $x^2+y^2=64$  which is exterior to the parabola  $y^2=12x$ 

a)  $\frac{16}{3}(4\pi-\sqrt{3})$  sq units                      b)  $\frac{16}{3}(8\pi-\sqrt{3})$  sq units  
 b)  $\frac{16}{3}(8+\sqrt{3})$  sq units                      d) none of these
10. The area enclosed between the concyclic circles  $x^2+y^2=4$  and  $x^2+y^2=9$  is
 

a)  $5\pi$  sq. units                      b)  $4\pi$  sq. units                      c)  $9\pi$  sq. units                      d)  $36\pi$  sq. units



22. The area bounded by the curve  $y=e^{|x|}$ ,  **$x$ -axis** and the lines  **$x=-1$**  and  **$x=1$**  is

- a)  $(e-1)$  sq. units      b)  $2(e-1)$  sq. units      c)  $\left(e - \frac{1}{e}\right)$  sq. units      d) none of these

23. The area bounded by the curve  **$x^2=y+4$**  and the lines  **$y=0$**  and  **$y=5$**  is

- a)  $\frac{16}{3}$  sq. units      b)  $\frac{76}{3}$  sq. units      c)  $\frac{20}{3}$  sq. units      d) none of these

24. The area region bounded by  **$x=a \cos$**  and  **$y=a \sin$**  or  **$x=a \left[\frac{1-t^2}{1+t^2}\right]$**  &  **$y=a \left[\frac{2t}{1+t^2}\right]$**  is

- a)  $2\pi a^2$       b)  $\pi a^2$       c)  $2\pi a$       d)  $\pi a$

25. The area of the region bounded by  **$x=acos$**  and  **$y=bsin$** , i.e.  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$  ( $a>b$ ) is

- a)  $2\pi ab$       b)  $\pi ab$       c)  $4\pi ab$       d)  $ab$