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 theses		
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 $y = Cosx$ and $y = Sinx$ and the ordinates $x = 0$ and $x = \frac{\pi}{4}$ is					
a) $\frac{1}{2} \left(\sqrt{2} - 1 \right)$	$b)\frac{1}{\sqrt{2}}$	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) $\frac{16}{3} (4\pi - \sqrt{3})$	a) $\frac{16}{3}$ $\left(4\pi - \sqrt{3}\right)$ sq units		b) $\frac{16}{3} \left(8\pi - \sqrt{3} \right)$ sq units		
b) $\frac{16}{3} (8 + \sqrt{3}) sa$	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) 5π sq. units	b) 4π sq. units	c) 9π sq. units	d) 36π sq. units		

11. Area bounded by the curves $y = log x$, $y = log x $, $y = llog x $ & $y = llog x is$					
	a)4 sq. units	b) 6 sq. units	c) 10 sq. units	d) none of these	
12. The area bounded by the curves $y=x & y=x^3$ is					
	a)1 sq. units	b) ½ sq. units	c) 2 sq units	d) none of these	
13. The area bounded by the curves $ x + y \ge 1$ and $x^2 + y^2 \le 1$ is					
	a) 2 sq. units	b) π sq. units	c) (π-2) sq. units	d) none of these	
14. The area of region bounded by $x^2=16y \& x=0$ and $y=1$, $y=4$ and y -axis in the 1 st quadrant is					
	a) $\frac{64}{3}$ sq.units	b) $\frac{56}{3}$ sq.units	c) $\frac{16}{3}$ sq. units	d) $\frac{4}{3}$ sq. units	
15. The area of the region bounded by $y=x^2-5x+4$ and $x-axis$ is					
	a) $\frac{3}{2}$	b) $\frac{5}{2}$	c) $\frac{7}{2}$	d) $\frac{9}{2}$	
16. The area enclosed by the parabola $y^2=16x$ and its latus rectum					
	a) $\frac{108}{3}$ sq.units	b) $\frac{16}{3}$ sq.units	c) $\frac{128}{3}$ sq. units	d) $\frac{4}{3}$ sq. units	
17. The area of smaller segment cut off from the circle $x^2+y^2=9$ by $x=1$ is					
	a) $\frac{1}{2} [9 \sec^{-1} 3 - \sqrt{8}] sq.units$		b) $[9 \sec^{-1} 3 - \sqrt{8}] $ sq. units		
	c) $[\sqrt{8} - 9 \sec^{-1} 3] \ sq. \ units$		d) none of these		
18. The ratio of which the area bounded by the curves $y^2 = 12x$ and $x^2 = 12y$ is divided by the line $x = 3$ is					
	a) 15:49	b) 13:48	c) 12:37	d) none of these	
19. The area bounded by $y=ax^2$ and $x=ay^2$ ($a>0$) is 1 then 'a' is					
	a) 1	b) $\frac{1}{\sqrt{3}}$	c) $\frac{1}{3}$	d) $\frac{-1}{\sqrt{3}}$	
20. The area of the region $\{(x, y): x^2+y^2 \le 1 \le x+y\}$					
	a) $\frac{\pi}{5}$ sq.units	b) $\frac{\pi}{4}$ sq.units	c) $\frac{\pi^2}{3}$ sq. units	d) $\left(\frac{\pi}{4} - \frac{1}{2}\right)$ sq. units	
21. Area of included between the curves $y=x^2-3x+2$ and $y=-x^2+3x-2$ is					
	a) $\frac{1}{6}$ sq. units	b) $\frac{1}{2}$ sq. units	c) 1 sq. units	d) $\frac{1}{3}$ 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 $\mathbf{x} = \mathbf{a} \cos \mathbf{a}$ and $\mathbf{y} = \mathbf{a} \sin \mathbf{v} = \mathbf{a} \left[\frac{1 - t^2}{1 + t^2} \right] &\mathbf{y} = \mathbf{a} \left[\frac{2t}{1 + t^2} \right]$ is

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

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

- a) 2πab
- b) πab
- c) 4πab
- d) ab