11-3

3.4. 與直角坐標系一樣 橫軸為 r 縱軸為θ 下去描點

30.33.38.44.49. 當初轉換時是令$x = r\cos\theta, y = r\sin\theta$ 比較後轉回 X,Y

54.57.60.62.65.
令$x = r\cos\theta, y = r\sin\theta$ 帶入

11-5

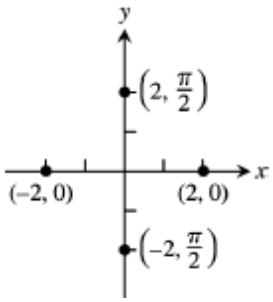
3.8 積分 $\int \frac{1}{2} r^2 \, d\theta$

13. 14.
解交點後找上下界，積分

11-3

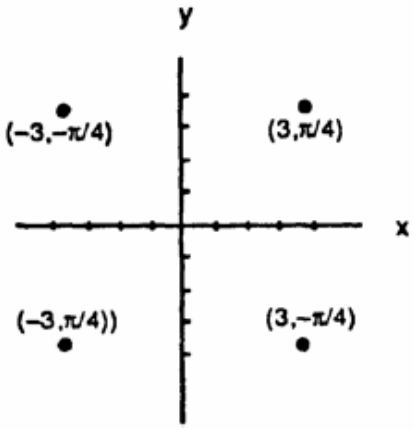
3.

(a) $\left(2, \frac{\pi}{2} + 2n\pi\right)$ and $\left(-2, \frac{\pi}{2} + (2n+1)\pi\right)$, n an integer
(b) $(2, 2n\pi)$ and $(-2, (2n+1)\pi)$, n an integer
(c) $\left(2, \frac{3\pi}{2} + 2n\pi\right)$ and $\left(-2, \frac{3\pi}{2} + (2n+1)\pi\right)$, n an integer
(d) $(2, (2n+1)\pi)$ and $(-2, 2n\pi)$, n an integer



4.

(a) $\left(3, \frac{\pi}{4} + 2n\pi\right)$ and $\left(-3, \frac{5\pi}{4} + 2n\pi\right)$, n an integer
(b) $\left(-3, \frac{\pi}{4} + 2n\pi\right)$ and $\left(3, \frac{5\pi}{4} + 2n\pi\right)$, n an integer
(c) $\left(3, -\frac{\pi}{4} + 2n\pi\right)$ and $\left(-3, \frac{3\pi}{4} + 2n\pi\right)$, n an integer
(d) $\left(-3, -\frac{\pi}{4} + 2n\pi\right)$ and $\left(3, \frac{3\pi}{4} + 2n\pi\right)$, n an integer



30.$x = 0$ y-axis
33.$x + y = 1$
38.$xy = 1$
44.$|x| = [y]$
49.$(x-1)^2 + (y-1)^2 = 2$

54.r $\sin\theta = 1$

57.r $= 2$or r $= -2$

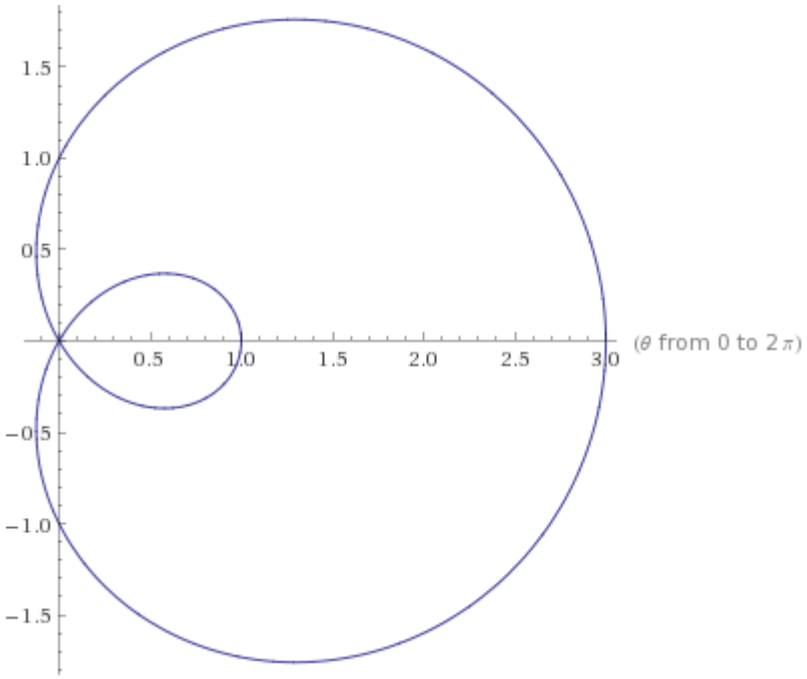
60.$r^2 \sin 2\theta$

62.$r^2(1 + \sin\theta \cos\theta) = 1$

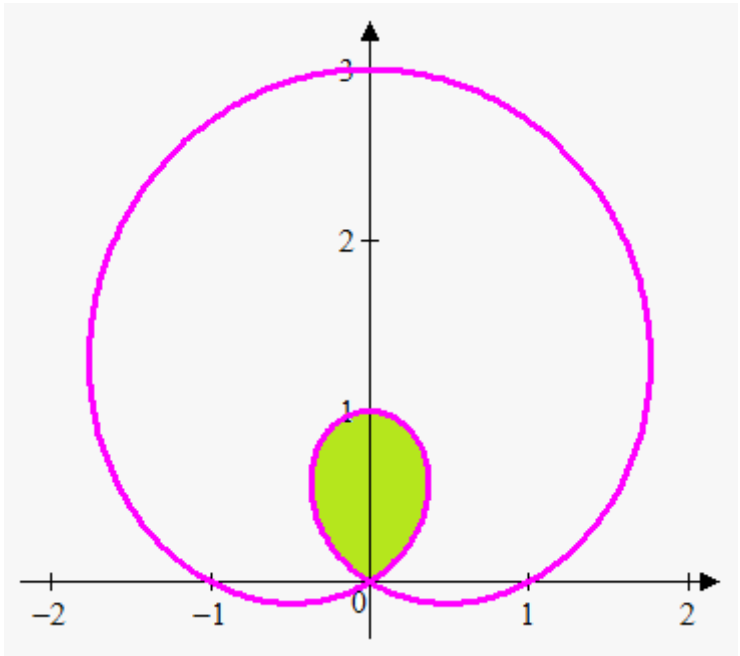
65.$r^2 = 6r\cos\theta - 2r\sin\theta - 6$

11-4

2.



6.



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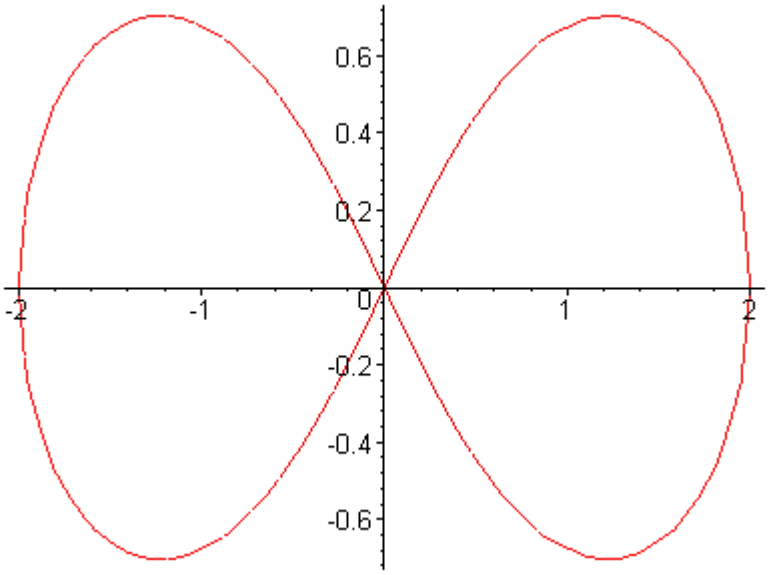
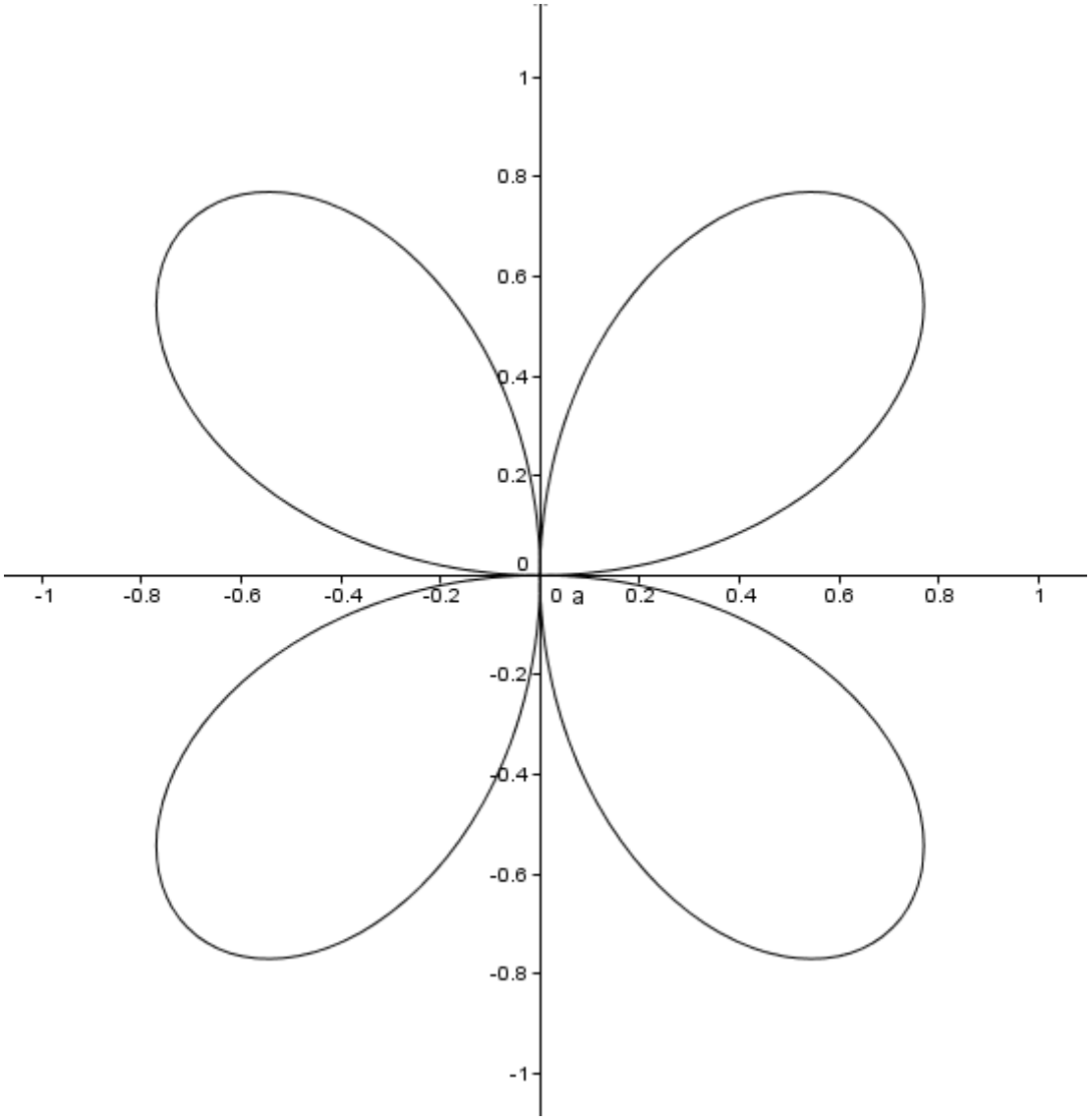


19.



11-5

3.18π

8.4

13.$3\sqrt{3}-\pi$

14.$a^2(\pi+1-\sqrt{3})$