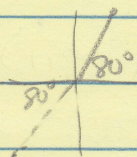


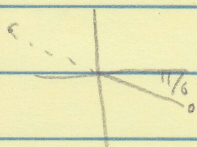
2.



$$(1, 80^\circ) = (1, 80^\circ - 360^\circ) = (1, -280^\circ)$$

$$(-1, 260^\circ) = (-1, 260^\circ - 360^\circ) = (-1, -100^\circ)$$

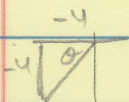
2b



$$(6, -\frac{\pi}{6}) = (6, -\frac{\pi}{6} + 2\pi) = (6, \frac{11\pi}{6})$$

$$(-6, \frac{5\pi}{6}) = (-6, \frac{5\pi}{6} - 2\pi) = (-6, -\frac{7\pi}{6})$$

4a

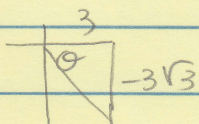


$$r = \sqrt{16+16} = 4\sqrt{2}$$

$$\theta = 180^\circ + \tan^{-1}(\frac{4}{4}) = 225^\circ$$

$$(4\sqrt{2}, 225^\circ)$$

4b

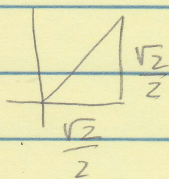


$$r = \sqrt{9+27} = 6$$

$$\theta = 360^\circ - \tan^{-1}(\frac{3\sqrt{3}}{3}) = 360^\circ - 60^\circ = 300^\circ$$

$$(6, 300^\circ)$$

6a

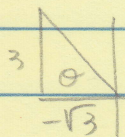


$$r = \sqrt{\frac{2}{4} + \frac{2}{4}} = 1$$

$$\theta = \tan^{-1}(1) = \frac{\pi}{4}$$

$$(1, \frac{\pi}{4})$$

6b



$$r = \sqrt{3+9} = 2\sqrt{3}$$

$$\theta = \pi - \tan^{-1}(\frac{3}{\sqrt{3}}) = \pi - \tan^{-1}(\frac{3\sqrt{3}}{3}) = \pi - \tan^{-1}(\sqrt{3})$$

$$\pi - \frac{\pi}{3} = \frac{2\pi}{3}$$

$$(2\sqrt{3}, \frac{2\pi}{3})$$

8a

$$(2, 225^\circ)$$

$$x = 2 \cos 225^\circ = 2 \cdot (-\frac{\sqrt{2}}{2}) = -\sqrt{2}$$

$$y = 2 \sin 225^\circ = 2 \cdot (-\frac{\sqrt{2}}{2}) = -\sqrt{2}$$

$$(-\sqrt{2}, -\sqrt{2})$$

$$\textcircled{8b} (6, -30^\circ) = (6, 330^\circ)$$

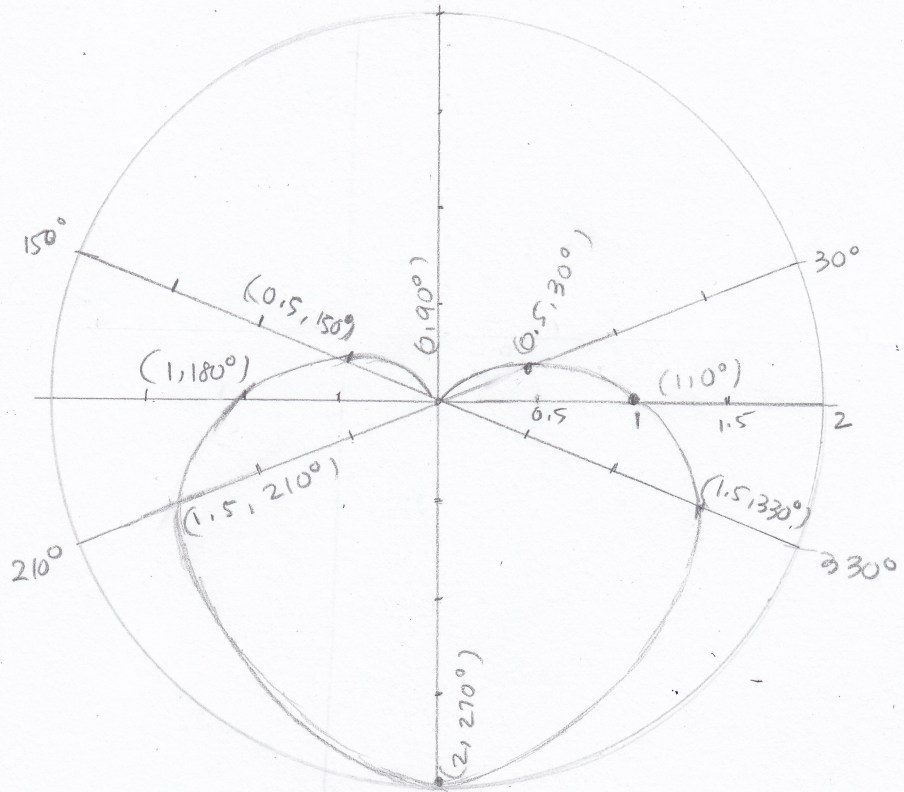
$$x = 6 \cos 330^\circ = 6(\frac{\sqrt{3}}{2}) = 3\sqrt{3}$$

$$y = 6 \sin 330^\circ = 6(-\frac{1}{2}) = -3$$

$$(3\sqrt{3}, -3)$$

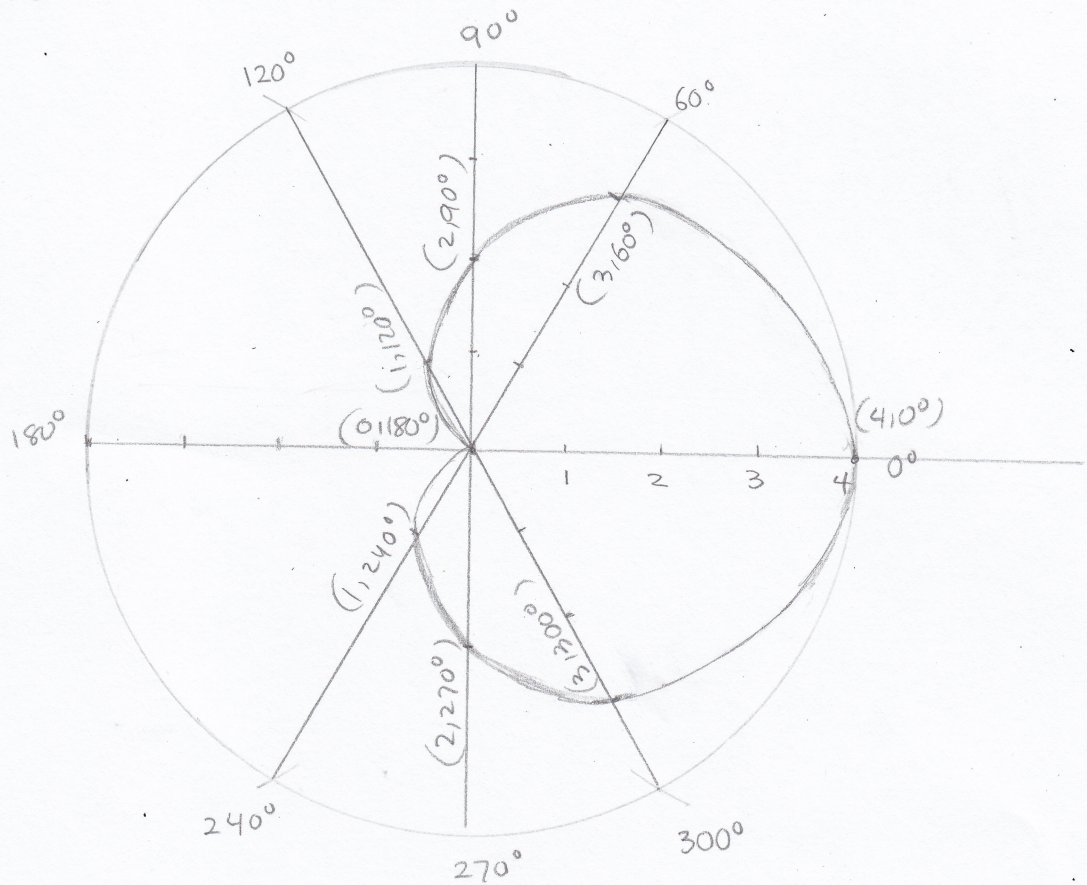
17.  $r = 1 - 8\sin\theta$

$\theta$	$8\sin\theta$	$1 - 8\sin\theta$
0	0	1
30°	0.5	0.5
90°	1	0
150°	0.5	0.5
180°	0	1
210°	-0.5	1.5
270°	-1	2
330°	-0.5	1.5
360°	0	1



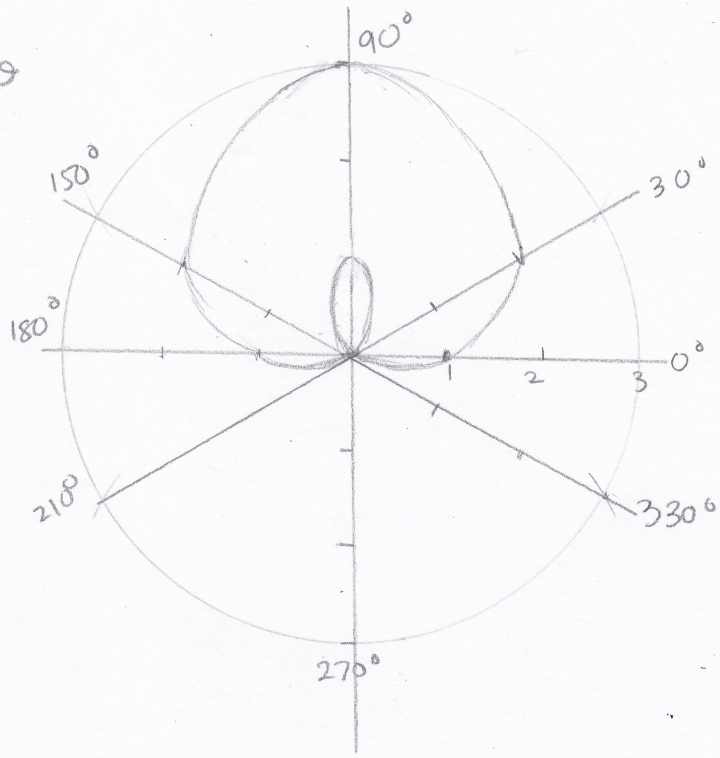
18.  $r = 2 + 2\cos\theta$

$\theta$	$\cos\theta$	$2 + 2\cos\theta$
0	1	4
60°	0.5	3
90°	0	2
120°	-0.5	1
180°	-1	0
240°	-0.5	1
270°	0	2
300°	0.5	3
360°	1	4



19.  $r = 1 + 2 \sin \theta$

$\theta$	$\sin \theta$	$1 + 2 \sin \theta$
$0^\circ$	0	1
$30^\circ$	0.5	2
$90^\circ$	1	3
$150^\circ$	0.5	2
$180^\circ$	0	1
$210^\circ$	-0.5	0
$270^\circ$	-1	-1
$330^\circ$	-0.5	0
$360^\circ$	0	1



20.  $r = 1 - 2 \cos \theta$

$\theta$	$\cos \theta$	$1 - 2 \cos \theta$
$0^\circ$	1	-1
$60^\circ$	0.5	0
$90^\circ$	0	1
$120^\circ$	-0.5	2
$180^\circ$	-1	3
$240^\circ$	-0.5	2
$270^\circ$	0	1
$300^\circ$	0.5	0
$360^\circ$	1	-1

