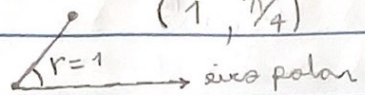
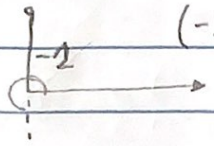
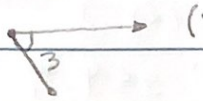
cálculo 2, stewart vol 2, ed 8, cap 10.3

1A 

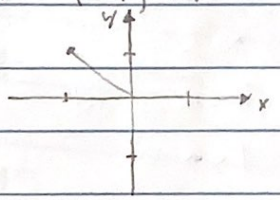
$(1, \pi/4)$ $(1, 9\pi/4)$ $(-1, 5\pi/4)$

1B 

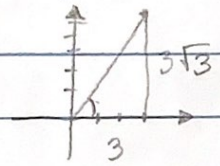
$(-2, 3\pi/2)$ $(-2, 7\pi/2)$ $(2, \pi/2)$

1C 

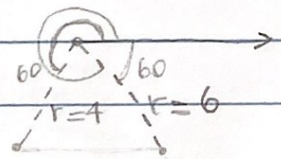
$(3, -\pi/3)$ $(-3, 2\pi/3)$ $(3, 5\pi/3)$

5A $(-4, 4)$ 

$r^2 = 16 + 16$
$r = \sqrt{32} = 4\sqrt{2}$ ou $r = -4\sqrt{2}$
$\theta = 3\pi/4$ $\theta = 7\pi/4$

5B $(3, 3\sqrt{3})$ 

$r^2 = 27 + 9$ $\operatorname{Tg}\theta = \sqrt{3}$
$r = 6$ ou $r = -6$
$\theta = \pi/3$ $\theta = 4\pi/3$

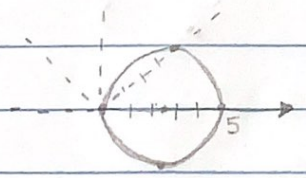
13 

$(4, 4\pi/3) \rightarrow (-2, -2\sqrt{3})$
$(6, 5\pi/3) \rightarrow (3, -3\sqrt{3})$

15 $r = 2$ $x^2 + y^2 = 2^2 \rightarrow x^2 + y^2 = r^2$

17 $r = 5 \cos\theta$

θ	r
0	5
$\pi/4$	$5\sqrt{2}/2$
$\pi/2$	0
$3\pi/4$	$-5\sqrt{2}/2$
π	-5



$\begin{cases} x = r\cos\theta \\ y = r\sin\theta \end{cases}$ $\cos\theta = \frac{x}{r} = \frac{r}{5}$

$r^2 = 5x$

$x^2 + y^2 = r^2 \rightarrow x^2 + y^2 = 5x$

$x^2 - 5x + y^2 = 0 \rightarrow x^2 - 5x + 6{,}25 - 6{,}25 + y^2 = 0$

$(x - 2{,}5)^2 + y^2 = 6{,}25$

$(x - 2{,}5)^2 + y^2 = 2{,}5^2$

21 $y = 2 \rightarrow y = r \operatorname{sen}\theta \rightarrow r \operatorname{sen}\theta = 2$

$$r = \frac{2}{\operatorname{sen}\theta} = 2 \operatorname{cossec}\theta$$

23 $y = 1 + 3x \rightarrow x = r\cos\theta,\ y = r\operatorname{sen}\theta$

$$r\operatorname{sen}\theta = 1 + 3r\cos\theta \rightarrow r\operatorname{sen}\theta - 3r\cos\theta = 1$$

$$r(\operatorname{sen}\theta - 3\cos\theta) = 1 \rightarrow r = \frac{1}{(\operatorname{sen}\theta - 3\cos\theta)}$$

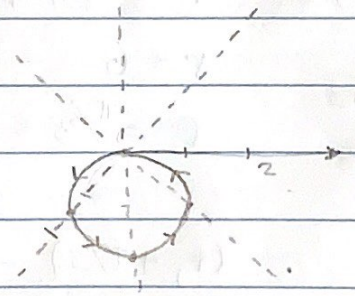
25 $x^2 + y^2 = 2cx \qquad r^2 = 2cx = 2c \cdot r\cos\theta$

$$\frac{r^2}{r} = 2c\cos\theta \rightarrow r = 2c\cos\theta$$

29

θ	r	θ	r
0	0	$5\pi/4$	$\sqrt{2}$
$\pi/4$	$-\sqrt{2}$	$3\pi/2$	2
$\pi/2$	-2	$7\pi/4$	$\sqrt{2}$
$3\pi/4$	$-\sqrt{2}$	2π	0
π	0		

$r = -2\operatorname{sen}\theta$



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θ	r
0	4
$\pi/4$	$1 + 3\sqrt{2}/2$
$\pi/2$	1
$3\pi/4$	$1 - 3\sqrt{2}/2$
π	-2
$5\pi/4$	$1 - 3\sqrt{2}/2$
$3\pi/2$	1
$7\pi/4$	$1 + 3\sqrt{2}/2$
2π	4

$r = 1 + 3\cos\theta$