## AQA - Polar coordinates - AS Further Mathematics P1

1. June/2020/Paper_1/No. 11

Sketch the polar graph of

$$
r=\sinh \theta+\cosh \theta
$$

for $0 \leq \theta \leq 2 \pi$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

2. June/2020/Paper_1/No. 17

The polar equation of the circle $C$ is

$$
r=a(\cos \theta+\sin \theta)
$$

Find, in terms of $a$, the radius of $C$.
Fully justify your answer.
[4 marks]
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
3. June/2019/Paper_1/No. 3

Point $P$ has polar coordinates $\left(2, \frac{2 \pi}{3}\right)$.
Which of the following are the Cartesian coordinates of $P$ ?
Circle your answer.
(1, $-\sqrt{3}$ )
$(-\sqrt{3}, 1)$
$(\sqrt{3},-1)$
$(-1, \sqrt{3})$
4. June/2019/Paper_1/No. 4

The line $L$ has polar equation

$$
r=\frac{k}{\sin \theta}
$$

where $k$ is a positive constant.
(a) Sketch $L$.

(b) State the minimum distance between $L$ and the point $O$.
[1 mark]
$\qquad$
$\qquad$
$\qquad$

