## 7D Solving Equations

1. Solve $4 \cos (\theta-30)=8 \sqrt{2} \sin \theta$ in the range $0 \leq \theta \leq 360$. Give answers to 1 dp .
2. Solve $3 \cos 2 x-\cos x+2=0$ in the range $0 \leq x \leq 360$. Give answers to 1 dp where appropriate.
3. Solve 2 tan 2 ytany $=3$ in the range $0 \leq y \leq 2 \pi$. Give answers to 2 dp .
4. 

a) By expanding $\sin (2 A+A)$, show that:

$$
\sin 3 A \equiv 3 \sin A-4 \sin ^{3} A
$$

b) Hence, or otherwise, solve:
$16 \sin ^{3} \theta-12 \sin \theta-2 \sqrt{3}=0$, in the range $0<\theta<2 \pi$

