7D Solving Equations

1. Solve $4\cos(\theta - 30) = 8\sqrt{2}\sin\theta$ in the range $0 \le \theta \le 360$. Give answers to 1dp.

2. Solve 3cos2x - cosx + 2 = 0 in the range $0 \le x \le 360$. Give answers to 1dp where appropriate.

3. Solve 2tan2ytany = 3 in the range $0 \le y \le 2\pi$. Give answers to 2dp.

4.

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

 $sin3A \equiv 3sinA - 4sin^3A$

b) Hence, or otherwise, solve:

 $16sin^3\theta - 12sin\theta - 2\sqrt{3} = 0$, in the range $0 < \theta < 2\pi$