Section 1: Working with radians

Exercise level 2

1. Solve the following equations for $0 \le \theta \le 2\pi$ giving your answers to 1 d.p. where necessary.
   (i) $\cos\theta = 0.4$
   (ii) $\tan\theta = -1.2$
   (iii) $\sin^2\theta = 1$

2. Find values for x in the range $0 \le \theta \le \pi$.
   (i) $2\sin x\cos x = \sin x$
   (ii) $2\sin^2 x - \cos x - 1 = 0$

3. Solve for x, where $-\pi < x \le \pi$ giving your answer exactly where appropriate:
   (i) $\cos 2x = \frac{\sqrt{3}}{2}$ (ii) $\tan^2 x = \frac{1}{3}$
   (iii) $2\sin^2 x = \sin x + 1$ (iv) $4 - 5\sin x = 2\cos^2 x$