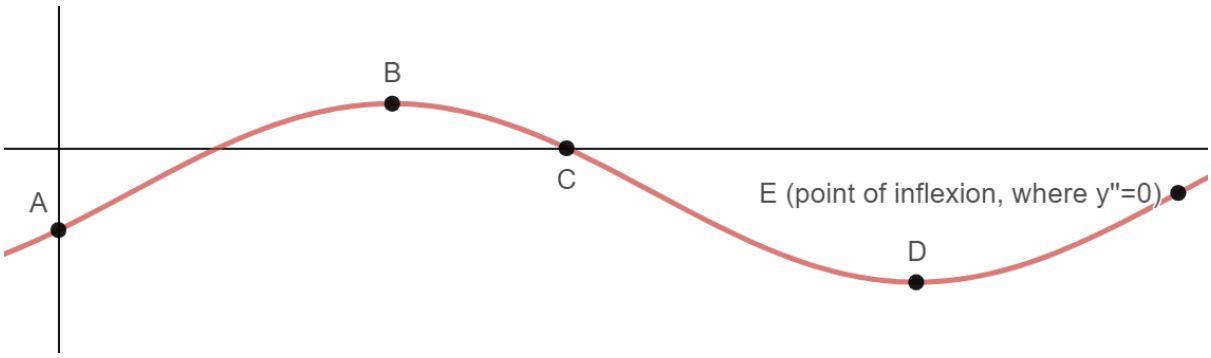
Engineering Maths Tutorial 8

1) a) Convers 135^0 to radians. Express your answer both in terms of π and to 4 decimal places

   b) Convert $\frac{11\pi}{6}$ radians to degrees

2)



Above, the graph of $y = 2\cos(5x - 2) - 1$ is drawn. Find the coordinates of A,B,C,D and E.

3) If $y = 2\cos(5x - 2) - 1$, find the
   a) Amplitude
   b) Period and frequency
   c) Phase angle

4) If $\sin(\theta) = \frac{12}{13}$ find an exact (no decimals!) value of $\cos(\theta)$ (which must be positive)

5) Solve $2\cos\left(t + \frac{\pi}{2}\right) - \sqrt{2} = 0, \quad -\pi \leq x \leq \pi$

6) Solve $2\sin(2t - 0.41) + \sqrt{3} = 0, \quad 0 \leq x \leq 2\pi$

7) Solve $16\tan(3x - 2°) + 1 = 33, \quad 0 \leq x \leq 180°$

8) Sketch $y = 2\cos(3x + 45°), \ 0 \leq x \leq 360°$. Label all relevant points.