

Twenty-first Set of Homework

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Due: Monday April 11

Please note: You should fully justify your answers.

Trigonometric equations

1. Find all solutions θ , with $0^\circ \leq \theta < 360^\circ$:

(a) $\cos \theta = \frac{1}{2}$

(b) $\cos \theta = -\frac{\sqrt{3}}{2}$

(c) $\sin \theta = 0.3$

(d) $\sin \theta = -0.5$

(e) $\tan \theta = 1$

(f) $\tan \theta = -\frac{\sqrt{3}}{3}$

(g) $3 \sin \theta = -0.34$

(h) $\sin \theta - 3 = 5$

(i) $2 \cos \theta - \frac{1}{3} = \frac{1}{15}$

(j) $5 \cos \theta + 21 = 19.25$

(k) $10 \cos^2 \theta - 7 \cos \theta + 1 = 0$

(l) $20 \sin^2 \theta - 7 \sin \theta - 3 = 0$

(m) $\tan^2 \theta + 2 \tan \theta - 3 = 0$

(n) $\tan^4 \theta - 4 \tan^2 \theta + 3 = 0$

(o) $\tan^3 \theta - \tan^2 \theta - 12 \tan \theta = 0$