Trig Equations (4.4) p211 day 7

Quiz 4

Trig Equations (4.4) p211 day 7

HW: p202#11cd, 15

15. a) Determine the positive value of $\sin(\cos^{-1} 0.6)$. Use your knowledge of the unit circle to explain why the answer is a rational number.

b) Without calculating, what is the positive value of $\cos(\sin^{-1} 0.6)$? Explain.

11. Determine the approxima of all angles that satisfy t Give answers to two deci diagrams to show the po

a) $\cos\theta = 0.42$ in the do $-\pi \le \theta \le \pi$

b) $\tan\theta = -4.87$ in the $-\frac{\pi}{2} \le \theta \le \pi$

c) $\csc\theta = 4.87$ in the do $-360° \le \theta < 180°$

d) $\cot\theta = 1.5$ in the don $-180° \le \theta < 360°$

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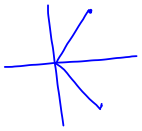
ex1: Solve $3\sec x - 6 = 0$ on $[0, 360°)$

$3\sec x = 6$

$\sec x = 2$

$\therefore \cos x = \frac{1}{2}$

$x = 60°, 300°$



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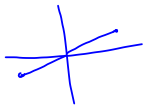
ex2: Solve $1 + \tan x = 4\tan x$ on $[0, 2\pi)$

$1 = 3\tan x$

$\frac{1}{3} = \tan x$

$\therefore x = 0.32$ rad

$0.32 + \pi = 3.46$ rad



3a, 4a, 5a

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ex3: Solve $\cos^2\theta = \cos\theta$ on $[0, 2\pi)$

$(\cos\theta)^2$

$\cos^2\theta - \cos\theta = 0$

$\cos\theta(\cos\theta - 1) = 0$

$\therefore \cos\theta = 0$ $\quad \cos\theta - 1 = 0$

$\theta = \frac{\pi}{2}, \frac{3\pi}{2}$ $\quad \cos\theta = 1$

$\theta = 0$

$a^2 - a = 0$

$a(a-1) = 0$

$a = 0 \quad a = 1$

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HW: p211#5bc, 7c, 11

Attachments

quiz5.pdf