17. $\csc A = \tan A + \cot A$

RECALL

$\csc A = \frac{1}{\sin A}$ $\quad \sin^2 A + \cos^2 A = 1$

$\tan A = \frac{\sin A}{\cos A}$

$\cot A = \frac{\cos A}{\sin A}$

$\frac{1}{\sin A} = \frac{\sin A}{\cos A} + \frac{\cos A}{\sin A}$

$\sin A \cos A \left(\frac{1}{\sin A}\right) = \sin A \cos A \left(\frac{\sin A}{\cos A}\right) + \sin A \cos A \left(\frac{\cos A}{\sin A}\right)$

$\cos A = \sin^2 A + \cos^2 A$

$\cos\theta = 1$

$\theta = 0$ (No Sol.)

18. $x^2 - 4\cos x = 0$

$x = -1.2$

$x = 1.2$

19. $\tan^2 x - 8\tan x + 1 = 0$

$a = 1 \quad b = -8 \quad c = 1$

$\tan x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$\tan x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(1)(1)}}{2(1)}$

$\tan x = \frac{8 \pm \sqrt{64 - 4}}{2}$

$\tan x = \frac{8 \pm \sqrt{60}}{2}$

$\tan x = \frac{8 \pm \sqrt{2 \cdot 2 \cdot 15}}{2}$

$\tan x = \frac{8 \pm 2\sqrt{15}}{2}$

$\tan x = \frac{4 \pm 1\sqrt{15}}{1}$

$\tan x = 4 \pm \sqrt{15}$

$\tan^{-1}\tan x = \tan^{-1}(4 \pm \sqrt{15})$

$x = \tan^{-1}(4 \pm \sqrt{15})$