

## TRIGONOMETRY

Solve the following equations in the given intervals:

- a**  $\sec^2 \theta = 3 \tan \theta, 0 \leq \theta \leq 360^\circ$   
**b**  $\tan^2 \theta - 2 \sec \theta + 1 = 0, -\pi \leq \theta \leq \pi$   
**c**  $\operatorname{cosec}^2 \theta + 1 = 3 \cot \theta, -180^\circ \leq \theta \leq 180^\circ$   
**d**  $\cot \theta = 1 - \operatorname{cosec}^2 \theta, 0 \leq \theta \leq 2\pi$   
**e**  $3 \sec \frac{1}{2}\theta = 2 \tan^2 \frac{1}{2}\theta, 0 \leq \theta \leq 360^\circ$   
**f**  $(\sec \theta - \cos \theta)^2 = \tan \theta - \sin^2 \theta, 0 \leq \theta \leq \pi$   
**g**  $\tan^2 2\theta = \sec 2\theta - 1, 0 \leq \theta \leq 180^\circ$   
**h**  $\sec^2 \theta - (1 + \sqrt{3}) \tan \theta + \sqrt{3} = 1, 0 \leq \theta \leq 2\pi$

R = 20.9  
 I =  $\pi/2$   
 F = 120  
 R =  $\pi/3$   
 C = 69.1  
 G = 26.6  
 E =  $\pi$   
 E = 96.2  
 D =  $-\pi/3$   
 M =  $5\pi/4$   
 H = 45  
 L =  $7\pi/4$   
 R = 11.2

A = 201  
 C = -135  
 R = 0  
 V = 0  
 D = 249  
 Y =  $3\pi/4$   
 D =  $\pi/4$   
 D =  $\pi/3$   
 J = 180  
 A = -153  
 V =  $5\pi/6$   
 N =  $3\pi/2$   
 E =  $\pi/4$   
 A =  $9\pi/10$   
 V =  $4\pi/3$

CROSS OUT  
THE CORRECT  
ANSWERS

REARRANGE  
THE  
REMAINING  
LETTERS TO  
MAKE A  
NAME

Answers

**8 a**  $20.9^\circ, 69.1^\circ, 201^\circ, 249^\circ$

**b**  $\pm \frac{\pi}{3}$

**c**  $-153^\circ, -135^\circ, 26.6^\circ, 45^\circ$

**d**  $\frac{\pi}{2}, \frac{3\pi}{4}, \frac{3\pi}{2}, \frac{7\pi}{4}$

**e**  $120^\circ$

**f**  $0, \frac{\pi}{4}, \pi$

**g**  $0^\circ, 180^\circ$

**h**  $\frac{\pi}{4}, \frac{\pi}{3}, \frac{5\pi}{4}, \frac{4\pi}{3}$

ferre  $\rightarrow \infty$