

Trigonometric Relations Part 2

6. Simplify the following.

(a) $\tan(90^\circ - \theta)\cos(90^\circ - \theta)$

(b) $\frac{\tan(90^\circ - \theta)}{\sin(90^\circ - \theta)} + \frac{\sin(90^\circ - \theta)}{\tan(90^\circ - \theta)}$

(c) $\frac{1}{\sin \theta} - \frac{\sin^2(90^\circ - \theta)}{\cos(90^\circ - \theta)}$

7. Prove that $\tan^2 \phi - \frac{1}{\cos^2 \phi} \equiv -1$.