

Exercise 2015-12 EI-00021(4)

- (1) If $2 \tan \theta + 1 = 3$, with $\sin \theta < 0$, calculate the value of θ .
- (2) (a) Determine B if $\cos(2B + 10^\circ) = -0,747$. [Correct to 2 decimals.]
(b) Then determine the value(s) of B for $B \in [-180^\circ; 360^\circ]$.
- (3) Solve for θ if $\sin 2\theta + 3 = 3,104$ where $0^\circ < \theta < 360^\circ$. [Correct to 3 decimals.]
- (4) If $2 \cos(A + 11^\circ) = \sqrt{3}$ with $A \in (90^\circ; 360^\circ)$, calculate the value of $\sin\left(\frac{A}{2} - 35^\circ\right)$ correct to 3 decimals.
- (5) Determine P , without using a calculator, if $-90^\circ < P < 180^\circ$:
 $3 \tan^2 P = \sin 330^\circ \cdot \cos 180^\circ + \sin^2 135^\circ \times \tan 225^\circ$