

**A2.A.68: Trigonometric Equations 9: Solve trigonometric equations for all values of the variable from  $0^\circ$  to  $360^\circ$**

- 1 Which two values of  $x$  satisfy the equation

$$\sqrt{3 - 2\cos x} = 2?$$

- 1)  $150^\circ$  and  $210^\circ$
- 2)  $120^\circ$  and  $240^\circ$
- 3)  $60^\circ$  and  $300^\circ$
- 4)  $30^\circ$  and  $330^\circ$

- 2 A solution of the equation  $\sqrt{4\sin x + 7} = 3$ ?

- 1)  $\frac{\pi}{4}$
- 2)  $\frac{\pi}{3}$
- 3)  $\frac{\pi}{6}$
- 4)  $\frac{\pi}{2}$

- 3 Solve for the *smallest* non-negative value of  $\theta$ :

$$\sqrt{3\cos \theta + 1} = 2.$$

- 4 Find the value of  $\theta$  in the interval  $0^\circ \leq \theta \leq 360^\circ$  that satisfies the equation  $|\sin \theta - 3| = 2$ .

**A2.A.68: Trigonometric Equations 9: Solve trigonometric equations for all values of the variable from  $0^\circ$  to  $360^\circ$** **Answer Section**

1 ANS: 2 PTS: 2 REF: 080230siii

2 ANS: 3 PTS: 2 REF: 068828siii

3 ANS:  
0

PTS: 2 REF: 080013siii

4 ANS:  
 $90^\circ$

PTS: 6 REF: 088512siii