

Additional Mathematics Exercise 7 Answers

(General Solutions of Trigonometric Equations)

1. $180n^\circ - 30^\circ$

2. $180n^\circ + 14.7^\circ$ or $180n^\circ + 90.3^\circ$

3. $n\pi$

4. $n\pi + \frac{\pi}{6}$ or $n\pi - \frac{\pi}{3}$

5. $n\pi + \frac{\pi}{6}$ or $n\pi + \frac{\pi}{3}$

6. $2n\pi \pm \frac{\pi}{4}$ or $2n\pi \pm \frac{3\pi}{4}$

7. $180n^\circ$ or $360n^\circ \pm 109.5^\circ$

8. $180n^\circ \pm 50.8^\circ$

9. $180n^\circ$ or $180n^\circ \pm 35.3^\circ$

10. $2n\pi + \frac{3\pi}{4}$

11. (a) $2n\pi + \frac{\pi}{12}$ or $2n\pi + \frac{7\pi}{12}$

(b) $\left(-\frac{23\pi}{12}, 5.59\right), \left(-\frac{17\pi}{12}, 9.26\right), \left(\frac{\pi}{12}, 5.59\right), \left(\frac{7\pi}{12}, 9.26\right)$

12. $\frac{n\pi}{3} + (-1)^n \frac{\pi}{6}$

13. $\frac{n\pi}{2}$ or $\frac{(2n+1)\pi}{10}$

14. $\frac{n\pi}{4}$

15. $180n^\circ - 74.1^\circ$

16. $360n^\circ \pm 73.7^\circ$

17. $\frac{2n\pi}{3} \pm \frac{\pi}{12}$

18. $180n^\circ + 45^\circ, 360n^\circ + 90^\circ, 360n^\circ$

19. (a) $-$

(b) $\frac{n\pi}{6}, n\pi - \frac{\pi}{2}, \frac{n\pi}{2} + \frac{\pi}{4}$

(c) $\frac{\pi}{2} - \frac{n\pi}{6}, (1-n)\pi, \frac{\pi}{4} - \frac{n\pi}{2}$