

Homework 25 (6.3)

The homework problems come from the exercises in Chapter 6 of the online text. Problem 6.3.6 refers to problem 6 in Chapter 6, Section 3. Record your answers to these problems in the EMCF titled “**Homework 25.**”

Note: For numbers 1 – 4, let “k” be an integer.

1. Problem 6.3.6 b and c

A. b: $\frac{\pi}{6}, \frac{5\pi}{6}$ c: $\frac{\pi}{6} + 2k\pi, \frac{5\pi}{6} + 2k\pi$

B. b: $\frac{\pi}{3}, \frac{2\pi}{3}$ c: $\frac{\pi}{3} + k\pi, \frac{2\pi}{3} + k\pi$

C. b: $\frac{\pi}{3}, \frac{2\pi}{3}$ c: $\frac{\pi}{3} + 2\pi, \frac{2\pi}{3} + 2\pi$

D. b: $\frac{\pi}{3}$ c: $\frac{\pi}{3} + 2k\pi$

E. b: $\frac{\pi}{3}, \frac{2\pi}{3}$ c: $\frac{\pi}{3} + 2k\pi, \frac{2\pi}{3} + 2k\pi$

2. Problem 6.3.10 b and c

A. b: $\frac{5\pi}{6}, \frac{11\pi}{6}$ c: $\frac{5\pi}{6} + k\pi$

B. b: $\frac{\pi}{3}, \frac{4\pi}{3}$ c: $\frac{\pi}{3} + k\pi$

C. b: $\frac{\pi}{3}, \frac{4\pi}{3}$ c: $\frac{\pi}{3} + 2k\pi, \frac{4\pi}{3} + 2k\pi$

D. b: $\frac{2\pi}{3}, \frac{5\pi}{3}$ c: $\frac{2\pi}{3} + k\pi$

E. None of the above (not the right answer)

3. Problem 6.3.16 b and c

- A. b: $\frac{\pi}{3}, \frac{5\pi}{3}, \frac{3\pi}{2}$ c: $\frac{\pi}{3} + 2k\pi, \frac{5\pi}{3} + 2k\pi, \frac{3\pi}{2} + 2k\pi$
- B. b: $\frac{\pi}{3}, \frac{5\pi}{3}$ c: $\frac{\pi}{3} + 2k\pi, \frac{5\pi}{3} + 2k\pi$
- C. b: $\frac{2\pi}{3}, \frac{4\pi}{3}, 0$ c: $\frac{2\pi}{3} + 2k\pi, \frac{4\pi}{3} + 2k\pi, 0 + 2k\pi$
- D. b: $\frac{\pi}{3}, \frac{5\pi}{3}, \pi$ c: $\frac{\pi}{3} + 2k\pi, \frac{5\pi}{3} + 2k\pi, \pi + 2k\pi$
- E. b: $\frac{\pi}{3}, \frac{5\pi}{3}, \pi$ c: $\frac{\pi}{3} + 2\pi, \frac{5\pi}{3} + 2\pi, \pi + 2k\pi$

4. Problem 6.3.18 b and c

- A. b: $\frac{\pi}{6}, \frac{5\pi}{6}$ c: $\frac{\pi}{6} + k\pi, \frac{5\pi}{6} + k\pi$
- B. b: $\frac{\pi}{6}, \frac{5\pi}{6}$ c: $\frac{\pi}{6} + 2k\pi, \frac{5\pi}{6} + 2k\pi$
- C. b: $\frac{4\pi}{3}, \frac{5\pi}{3}$ c: $\frac{4\pi}{3} + 2k\pi, \frac{5\pi}{3} + 2k\pi$
- D. b: $\frac{7\pi}{6}, \frac{11\pi}{6}, \frac{3\pi}{2}$ c: $\frac{7\pi}{6} + 2k\pi, \frac{11\pi}{6} + 2k\pi, \frac{3\pi}{2} + 2k\pi$
- E. b: $\frac{\pi}{3}, \frac{2\pi}{3}$ c: $\frac{\pi}{3} + 2k\pi, \frac{2\pi}{3} + 2k\pi$

5. Problem 6.3.30 Use radians instead of degrees. $0 \leq x < 2\pi$

- A. π
- B. $0, \pi$
- C. $\frac{\pi}{2}, \frac{3\pi}{2}$
- D. $\frac{\pi}{2}, \frac{3\pi}{2}, \pi$
- E. No solution.

6. Problem 6.3.34 Use radians instead of degrees. $0 \leq x < 2\pi$

A. $0, \pi, 2\pi$

B. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

C. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}, \frac{\pi}{2}, \frac{3\pi}{2}$

D. $0, \pi, \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

E. No solution.

7. Problem 6.3.36 Use radians instead of degrees. $0 \leq x < 2\pi$

A. $0, \pi$

B. $\frac{\pi}{6}, \frac{5\pi}{6}$

C. $0, \pi, \frac{\pi}{6}, \frac{5\pi}{6}$

D. $0, \pi, \frac{7\pi}{6}, \frac{11\pi}{6}$

E. No solution.

8. Problem 6.3.38 $0 \leq x < 2\pi$

A. $\frac{7\pi}{6}, \frac{11\pi}{6}$

B. $\frac{7\pi}{18}, \frac{11\pi}{18}, \frac{19\pi}{18}, \frac{23\pi}{18}$

C. $\frac{\pi}{18}, \frac{5\pi}{18}, \frac{13\pi}{18}, \frac{17\pi}{18}, \frac{25\pi}{18}, \frac{29\pi}{18}$

D. $\frac{7\pi}{18}, \frac{11\pi}{18}, \frac{19\pi}{18}, \frac{23\pi}{18}, \frac{31\pi}{18}, \frac{35\pi}{18}$

E. No solution.

9. Problem 6.3.40 $0 \leq x < 2\pi$

A. $\frac{3\pi}{2}, 2\pi$

B. $\frac{5\pi}{4}, \frac{7\pi}{4}$

C. $\pi, \frac{3\pi}{2}$

D. $0, \frac{\pi}{2}$

E. No solution.

10. Problem 6.3.42 $0 \leq x < 2\pi$

A. $\frac{\pi}{2}, \frac{3\pi}{2}$

B. $\frac{\pi}{6}, \frac{5\pi}{6}$

C. π

D. $\pi, \frac{7\pi}{3}$

E. No solution.

11. Problem 6.3.46

A. $\frac{\pi}{6}, \frac{5\pi}{6}$

B. $\frac{\pi}{12}, \frac{11\pi}{12}, \frac{13\pi}{12}, \frac{23\pi}{12}$

C. $\frac{\pi}{3}, \frac{5\pi}{3}$

D. $\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$

E. $\frac{2\pi}{3}$

12. Problem 6.3.48 Use radians instead of degrees. $0 \leq x < 2\pi$

A. $\frac{\pi}{9}, \frac{4\pi}{9}, \frac{7\pi}{9}, \frac{10\pi}{9}, \frac{13\pi}{9}, \frac{16\pi}{9}$

B. $\frac{\pi}{18}, \frac{7\pi}{18}, \frac{13\pi}{18}, \frac{19\pi}{18}, \frac{25\pi}{18}, \frac{31\pi}{18}$

C. $\frac{\pi}{9}, \frac{4\pi}{9}, \frac{10\pi}{9}, \frac{13\pi}{9}$

D. $\frac{\pi}{3}$

E. $\frac{\pi}{9}$

13. Problem 6.3.50 Use radians instead of degrees. $0 \leq x < 2\pi$

A. $\frac{\pi}{6}, \frac{11\pi}{6}$

B. $\frac{\pi}{3}, \frac{11\pi}{3}$

C. $\frac{2\pi}{3}$

D. $\frac{\pi}{12}, \frac{11\pi}{12}$

E. $\frac{\pi}{3}$

14. Problem 6.3.52

A. $\frac{3\pi}{10}, \frac{7\pi}{10}, \frac{11\pi}{10}, \frac{3\pi}{2}, \frac{19\pi}{10}$

B. $\frac{\pi}{10}, \frac{\pi}{2}, \frac{9\pi}{10}, \frac{13\pi}{10}, \frac{17\pi}{10}$

C. $\frac{3\pi}{10}$

D. $\frac{\pi}{10}$

E. $\frac{3\pi}{10}, \frac{\pi}{10}, \frac{7\pi}{10}, \frac{9\pi}{10}, \frac{11\pi}{10}, \frac{13\pi}{10}, \frac{3\pi}{2}, \frac{17\pi}{10}, \frac{19\pi}{10}$

15. Problem 6.3.56

A. $\frac{\pi}{2}$

B. $0, \pi$

C. $\frac{-\pi}{2}, \frac{\pi}{2}, \frac{3\pi}{2}$

D. $\frac{\pi}{2}, \frac{3\pi}{2}$

E. No solution.