

# Chapter 2

## Trigonometric Functions II



Fig. 2-1: Sec function in the interval  $-2\pi < x < 2\pi$  illustrated.

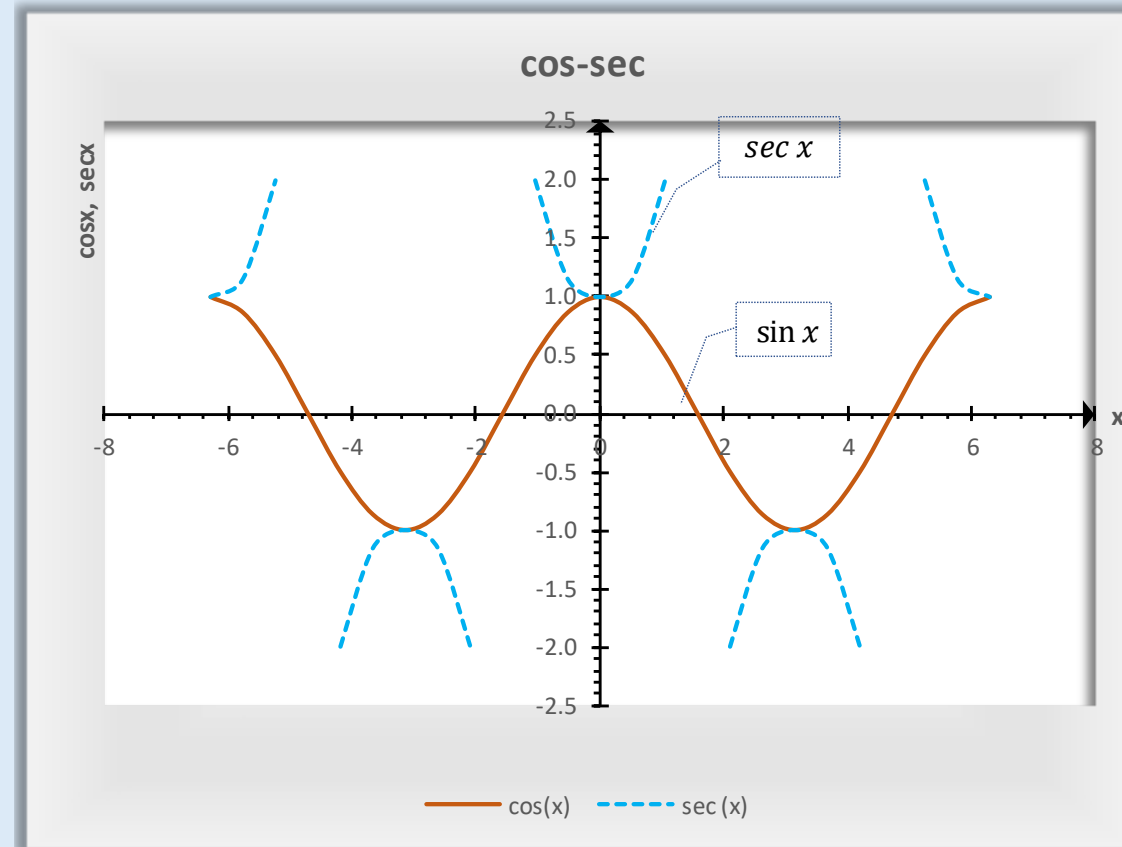


Fig. 2-2: Cosec function in the interval  $-2\pi < x < 2\pi$  illustrated.

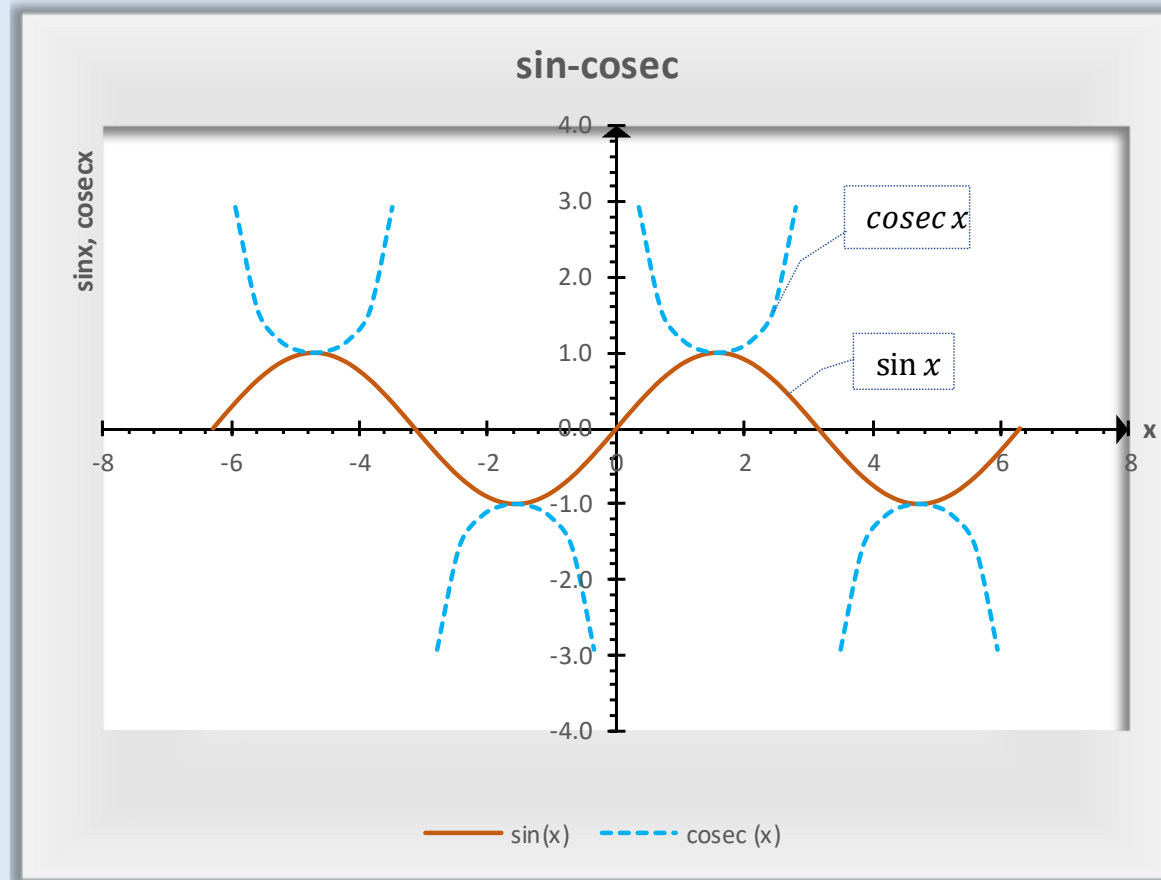


Fig. 2-3: Cot function in the interval  $-2\pi < x < 2\pi$  illustrated.

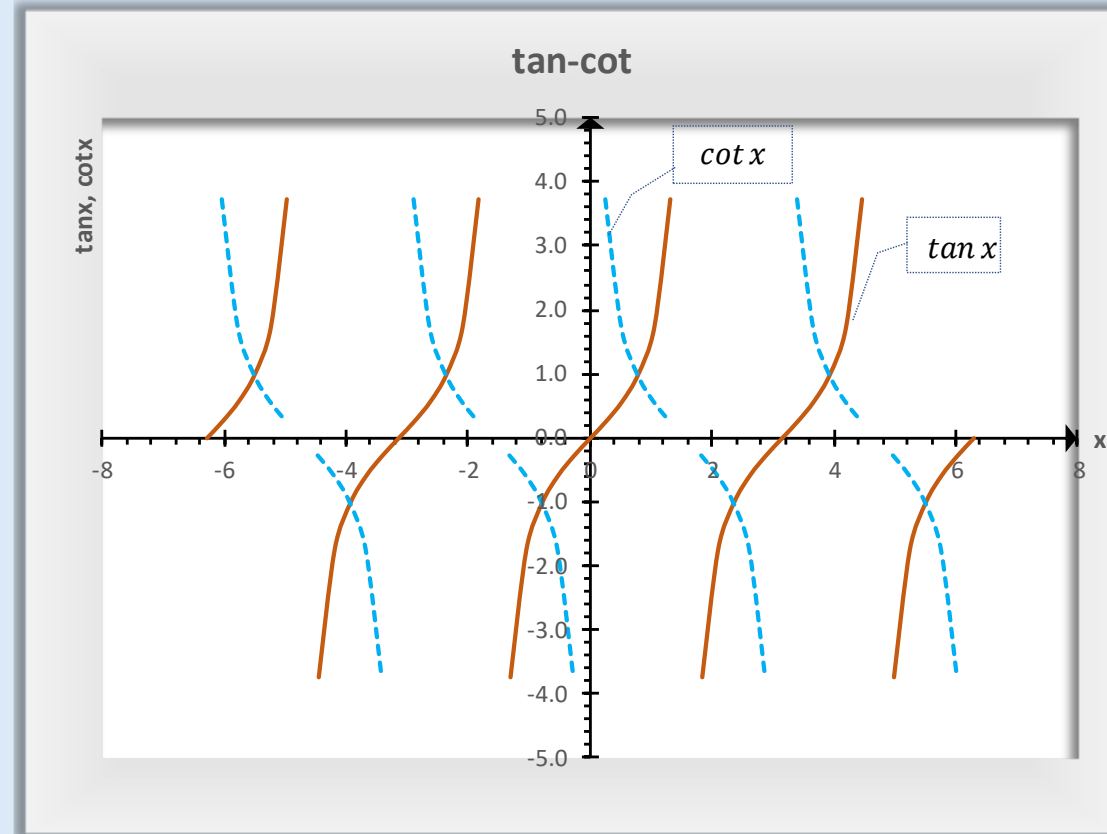


Fig. 2-4: Solution to Example 2.

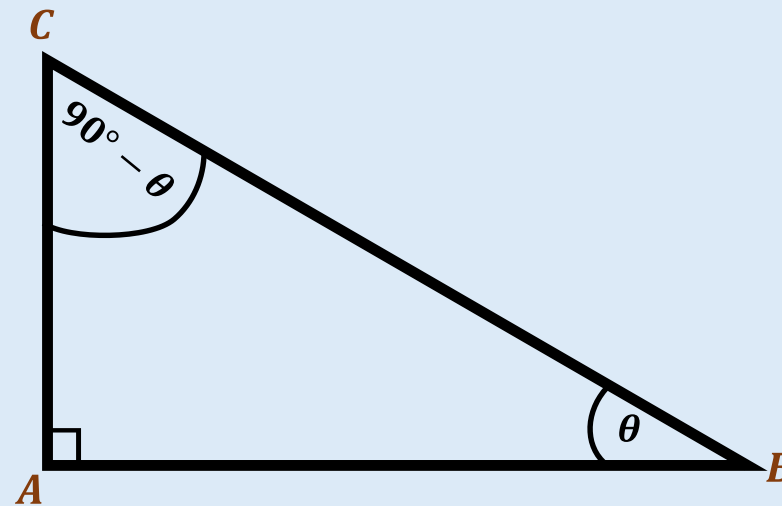
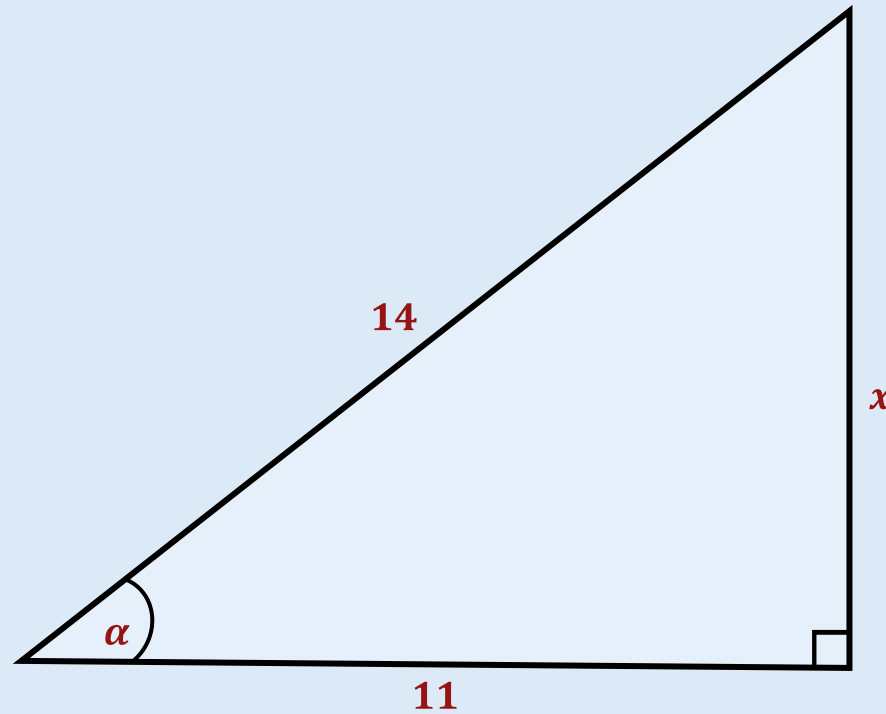
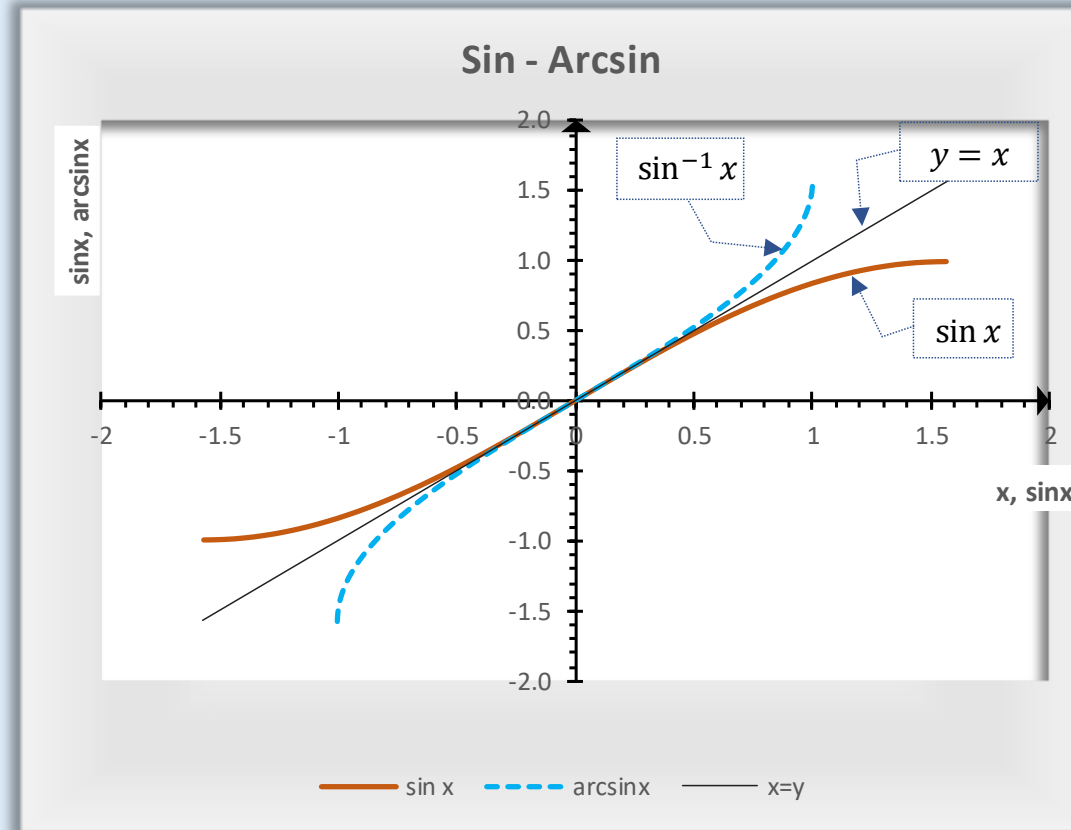


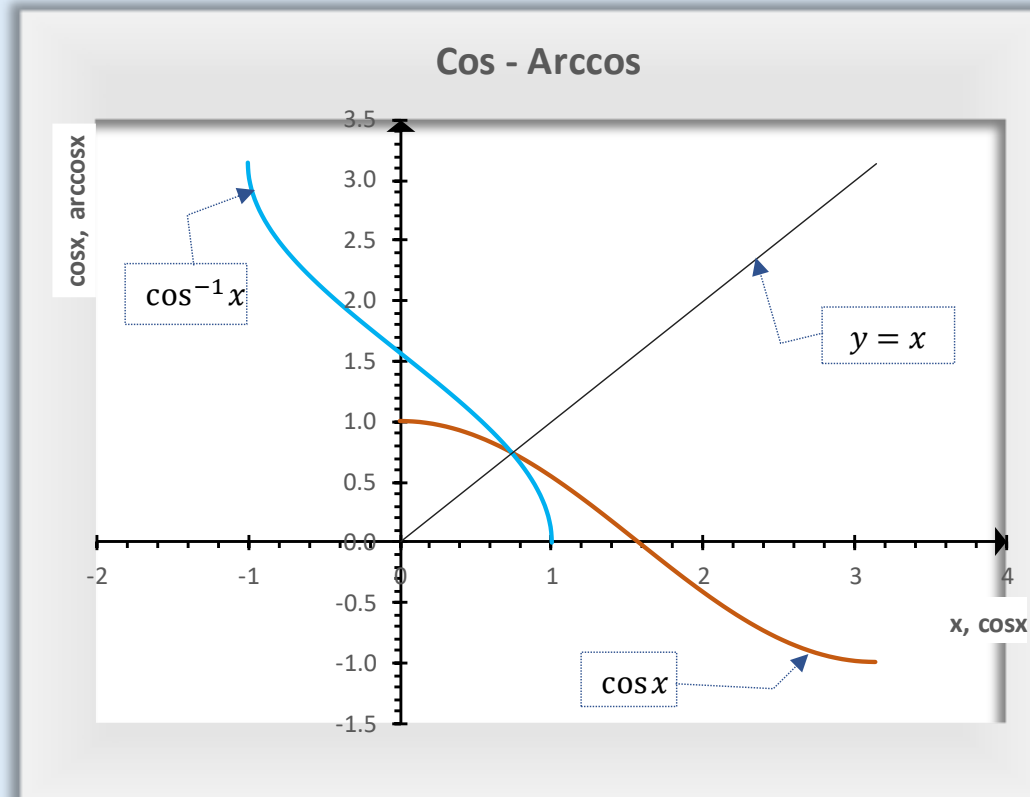
Fig. 2-5: Solution to Example 3.



**Fig. 2-6: Arcsin function in the interval  $-1 \leq \theta \leq 1$  illustrated**



**Fig. 2-7: Arccos function in the interval  $-1 \leq \theta \leq 1$  illustrated**





**Fig. 2-8: Arctan function in the interval  $-\infty \leq \theta \leq \infty$  illustrated**

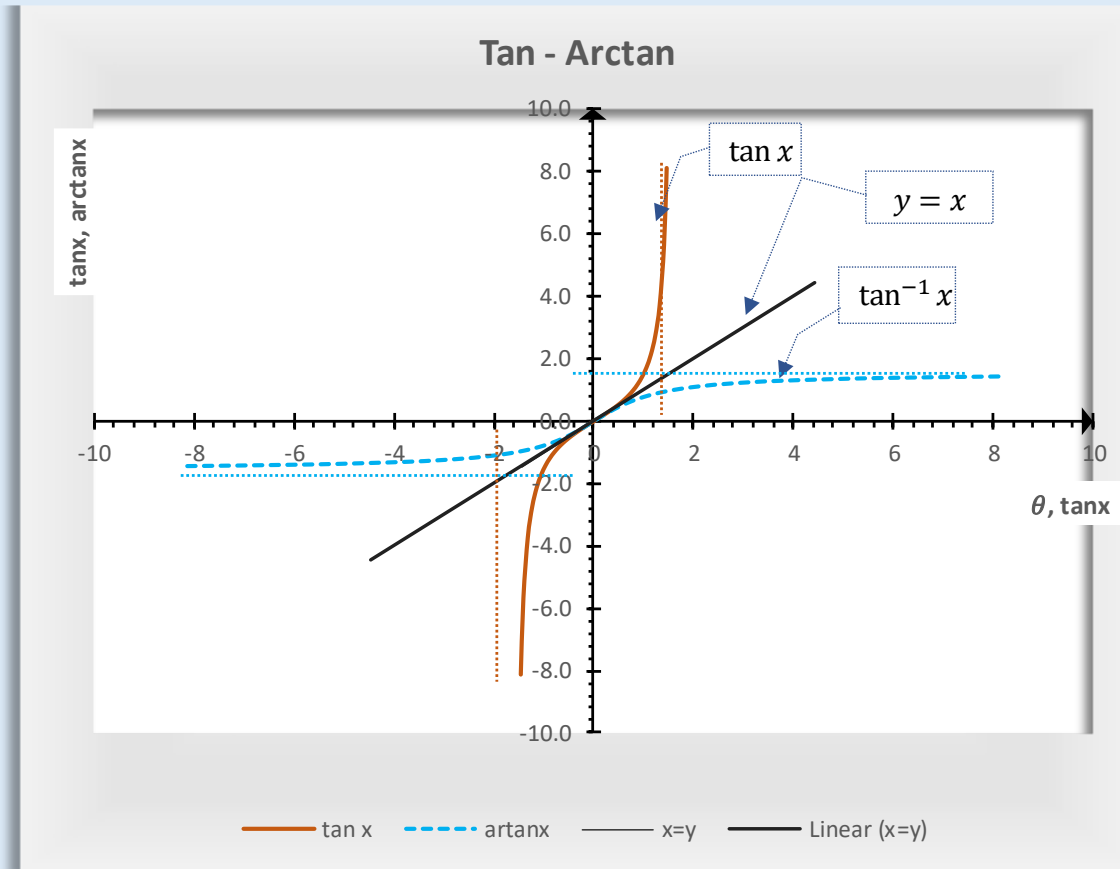
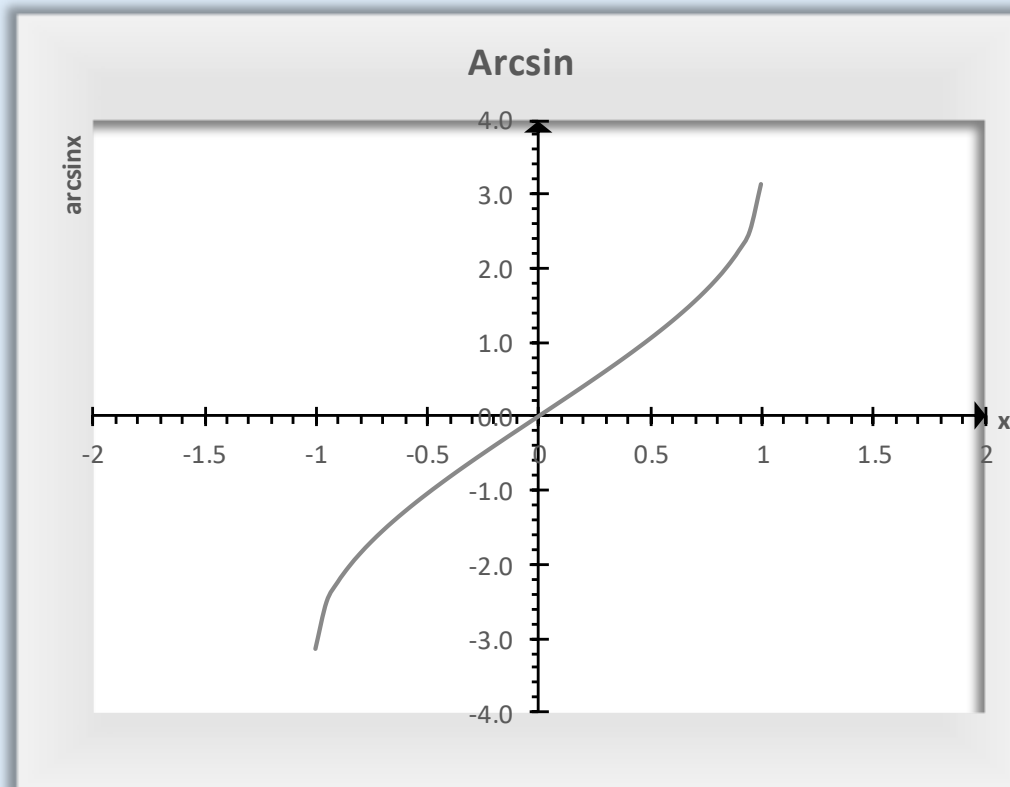
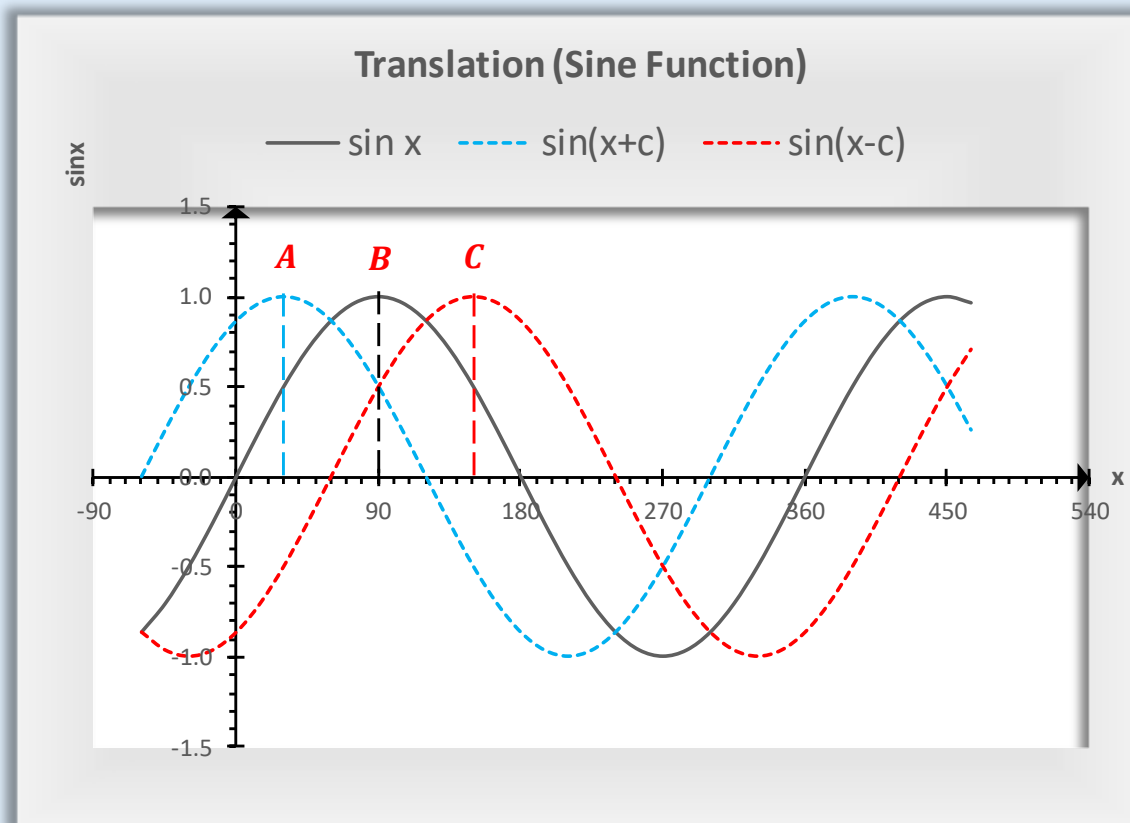


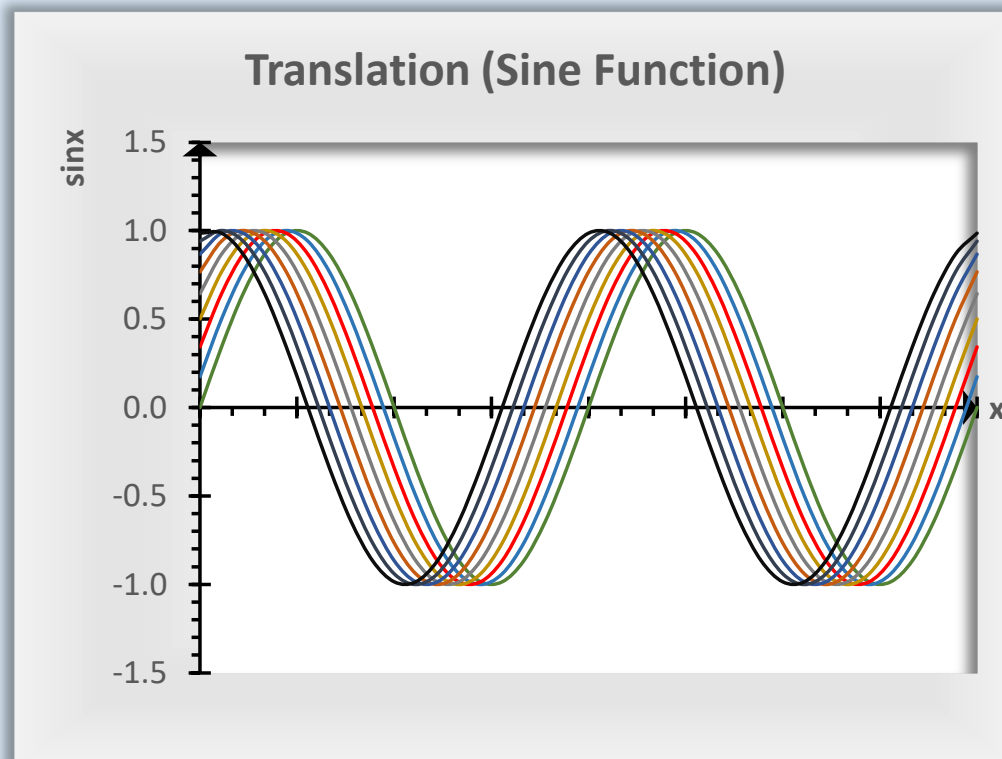
Fig. 2-9: Solution to Example 5.



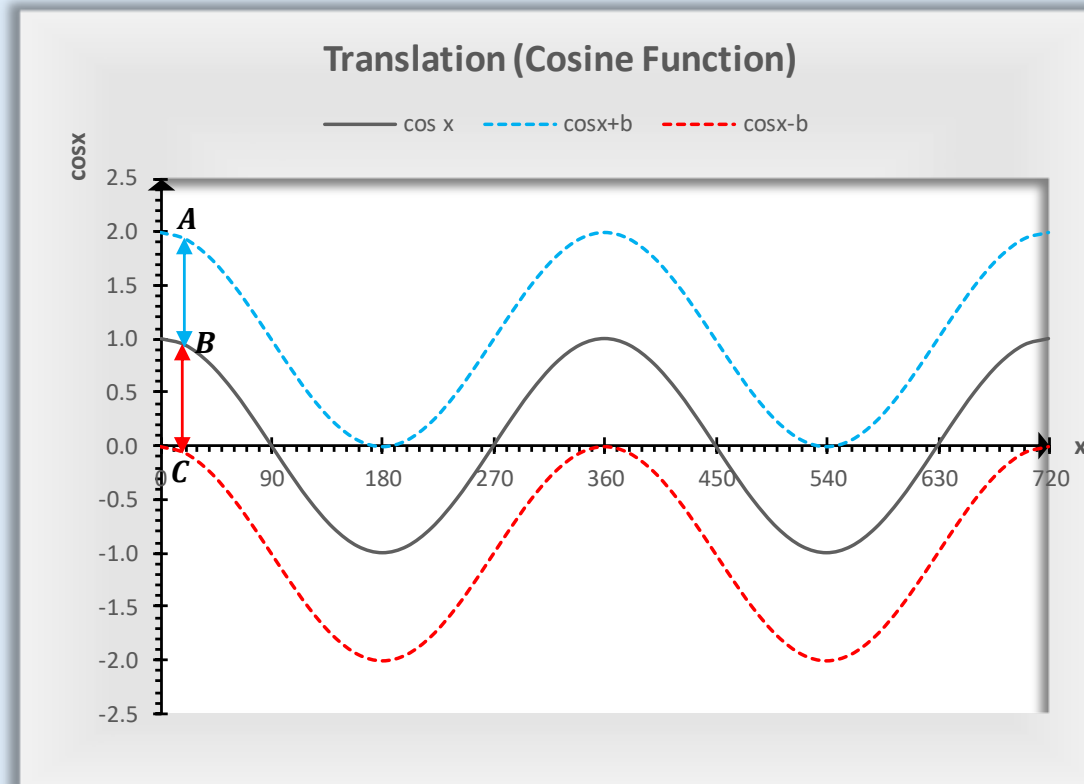
**Fig. 2-10: Horizontal translation of sine function with a phase angle of  $60^\circ$  illustrated.**



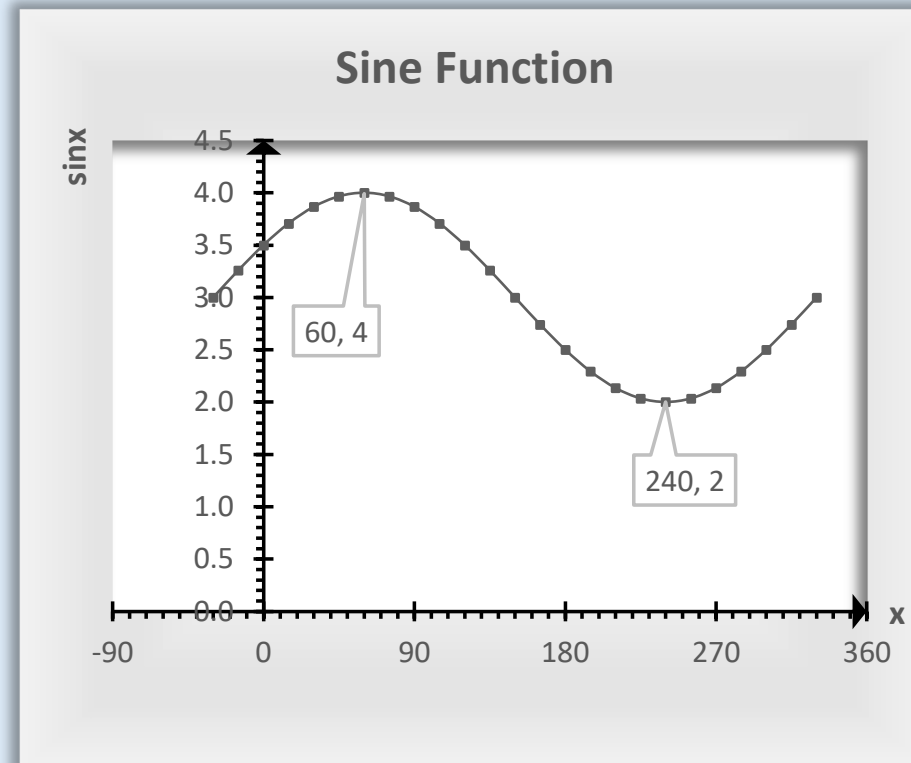
**Fig. 2-11: Horizontal translation of sine function with a phase angle of  $10^\circ$  illustrated.**



**Fig. 2-12: Vertical translation of cosine function at 1 unit illustrated.**



**Fig. 2-13: Solution to Example 7(a).**



**Fig. 2-14: Solution to Example 7(b).**

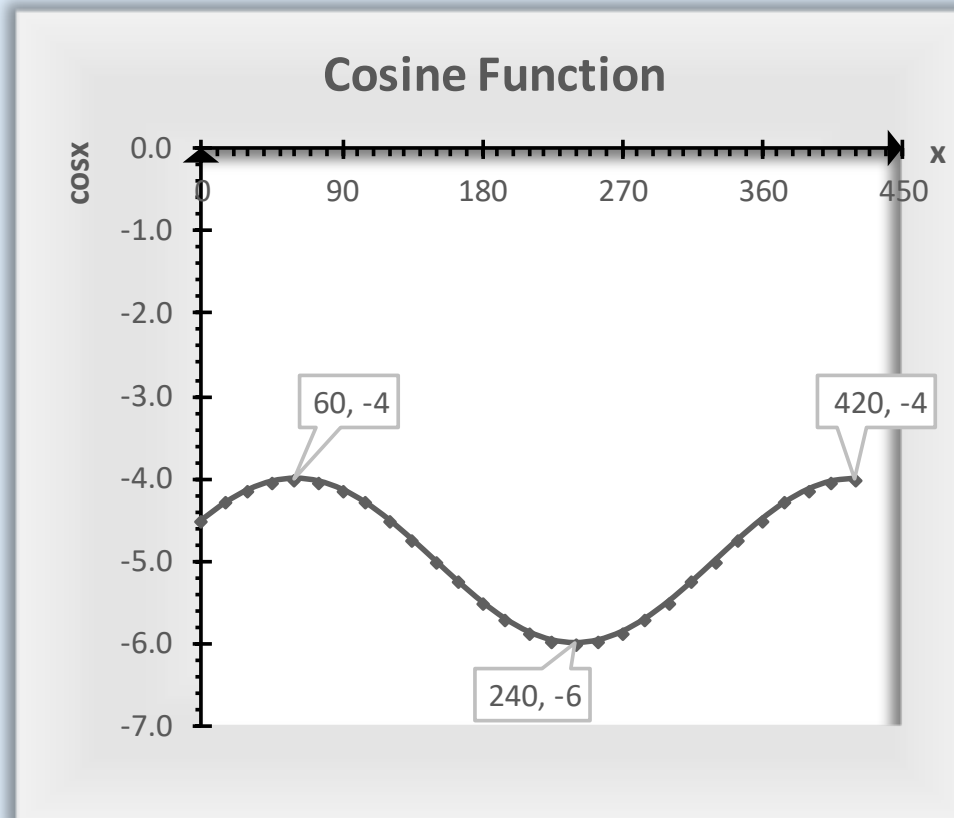
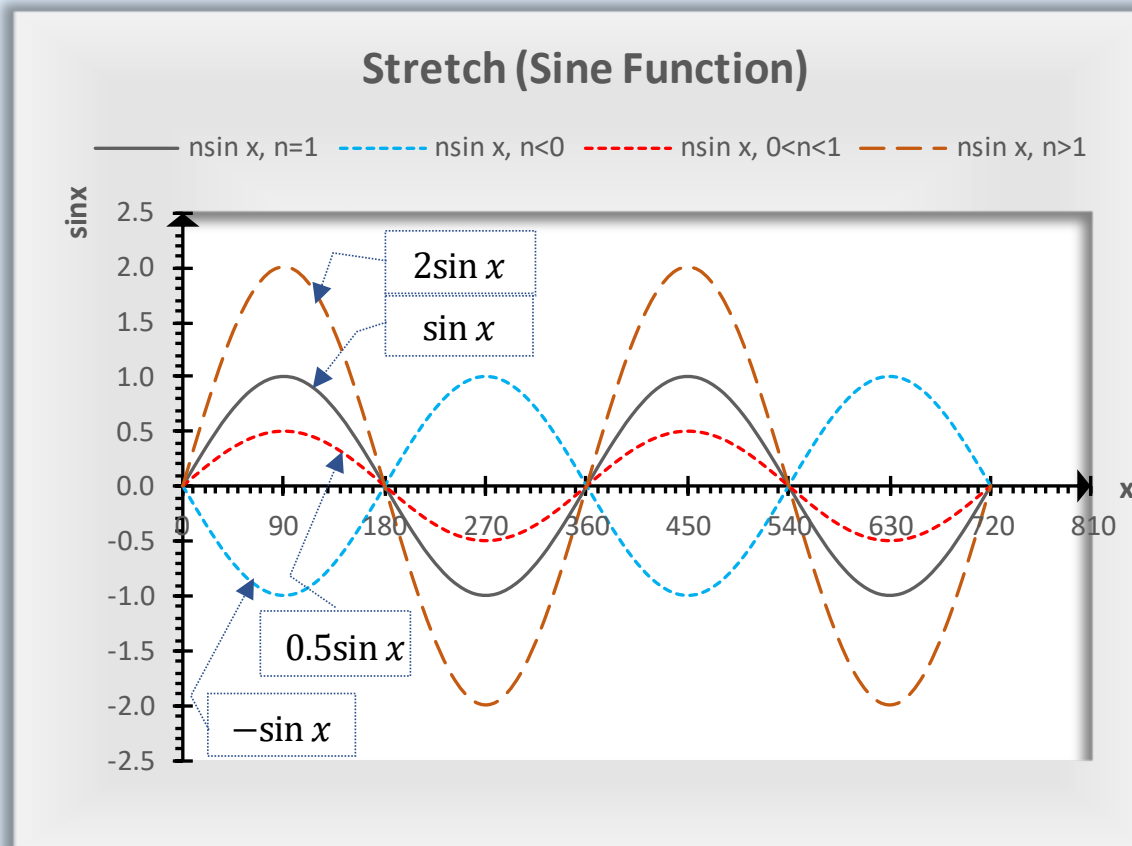
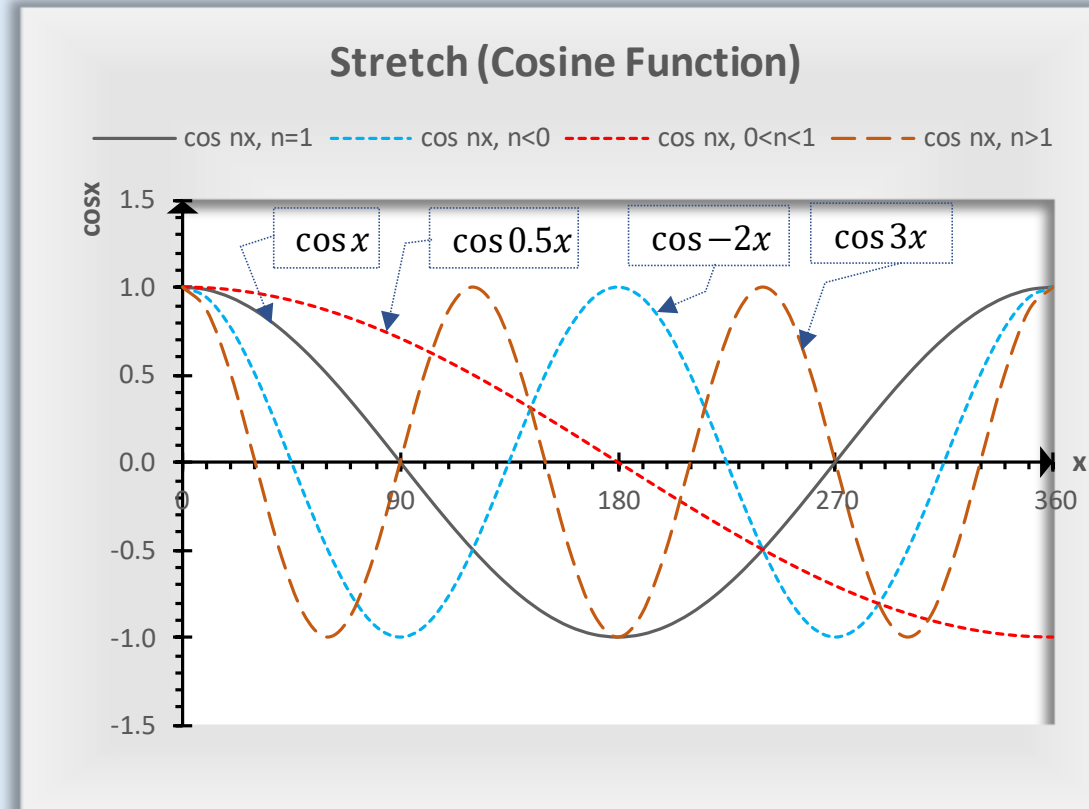


Fig. 2-15: Vertical stretch of sine function with  $n = 1$ ,  $n = -1$ ,  $n = 0.5$ , and  $n = 2$  illustrated.





**Fig. 2-16: Horizontal stretch of cosine function with  $n = 1$ ,  $n = -2$ ,  $n = 0.5$ , and  $n = 3$  illustrated.**



**Fig. 2-17: Horizontal stretch of sine function with  $n = 1$ ,  $n = -1$ ,  $n = 0.5$ , and  $n = 3$  illustrated.**

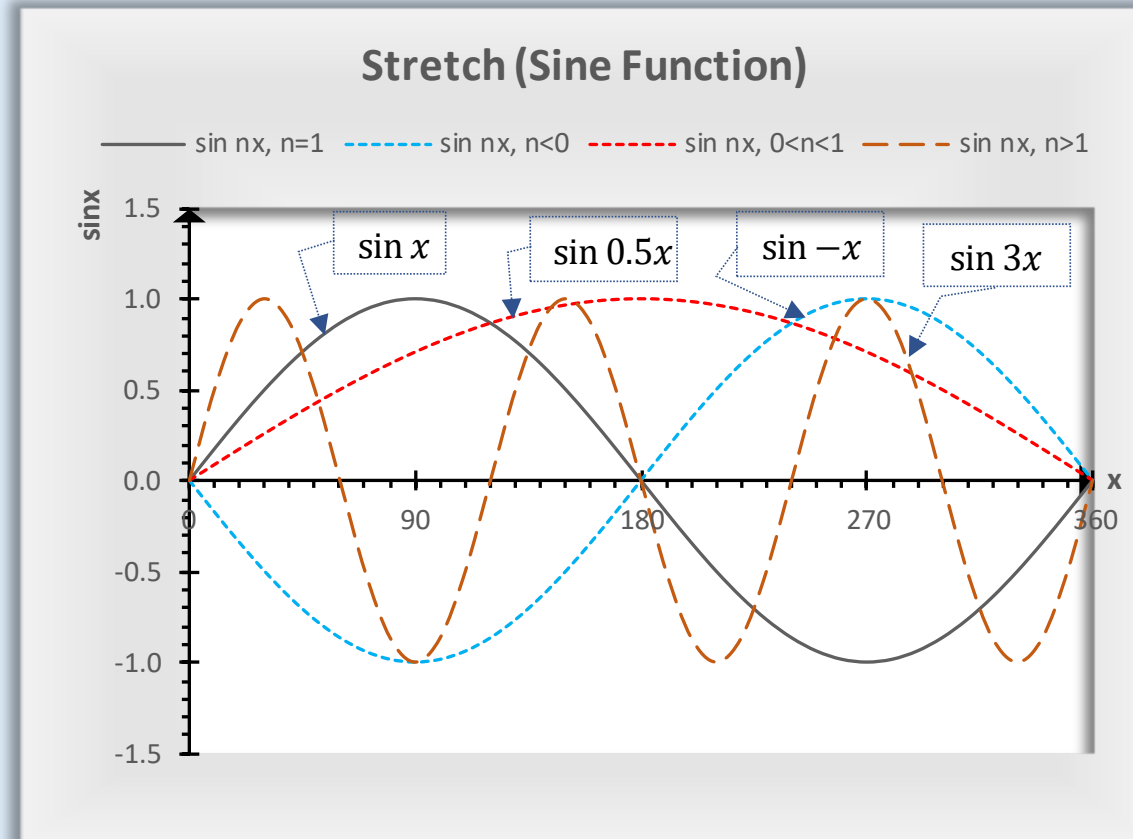


Fig. 2-18: Solution to Example 8.

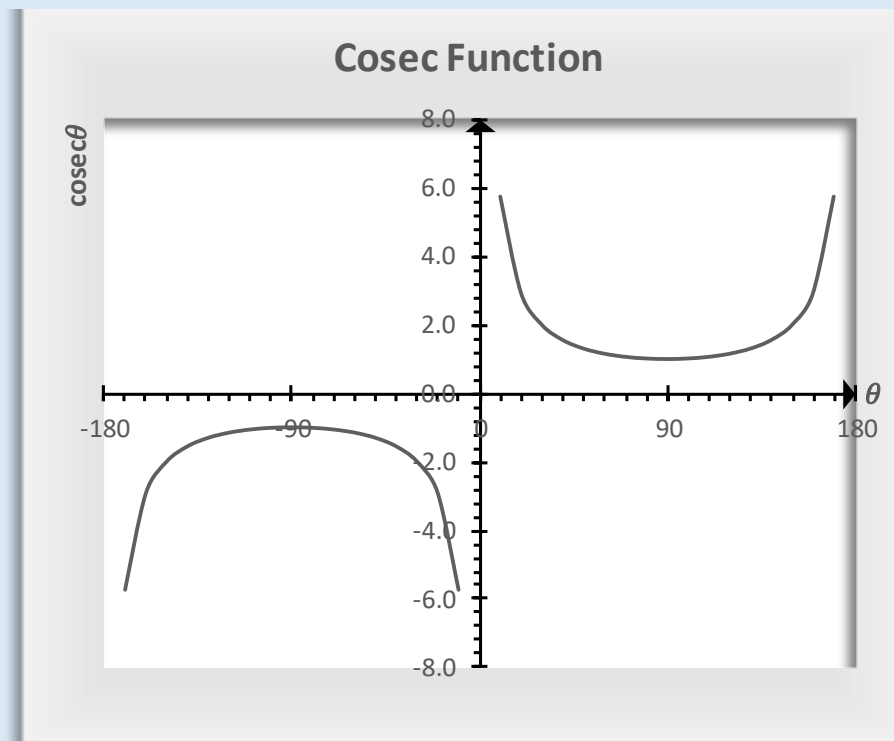
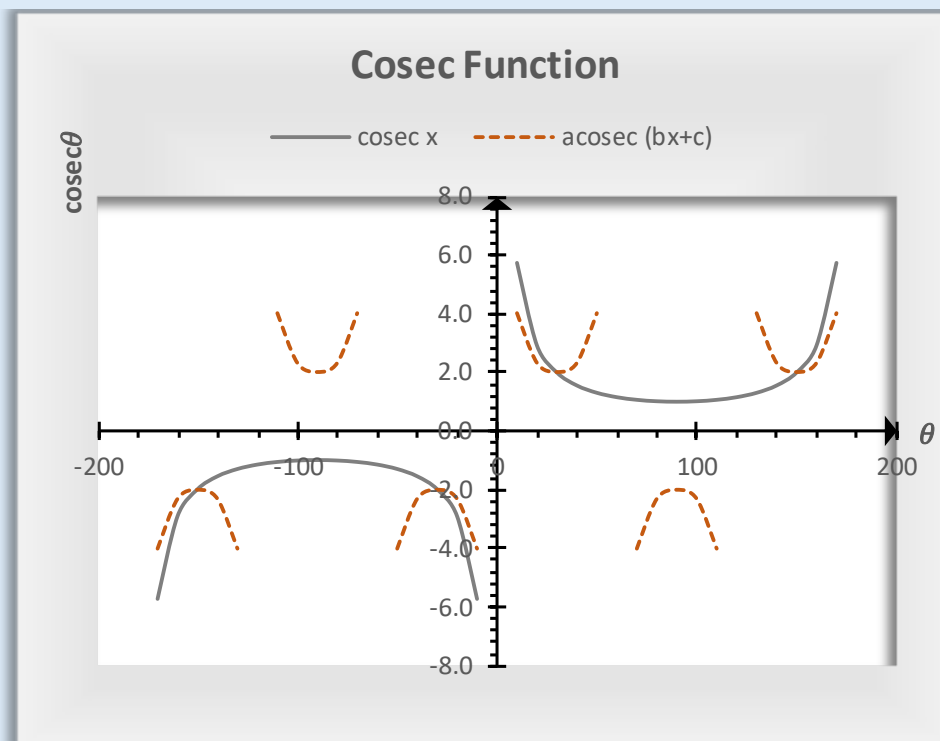


Fig. 2-19: Solution to Example 9.

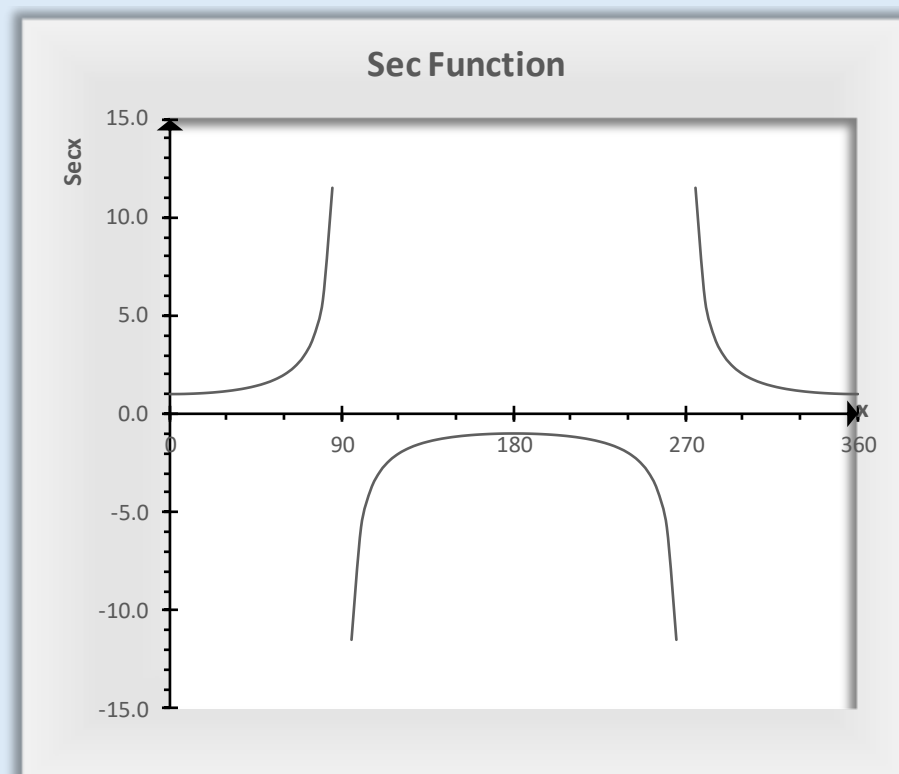
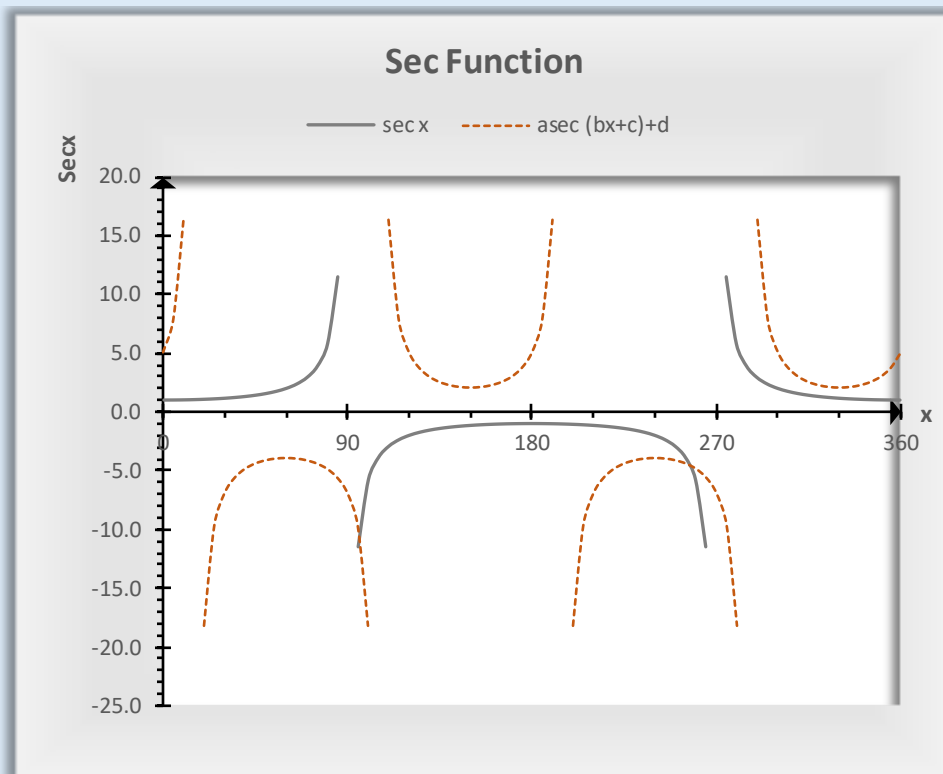


Fig. 2-20: Solution to Example 10 – Part I.

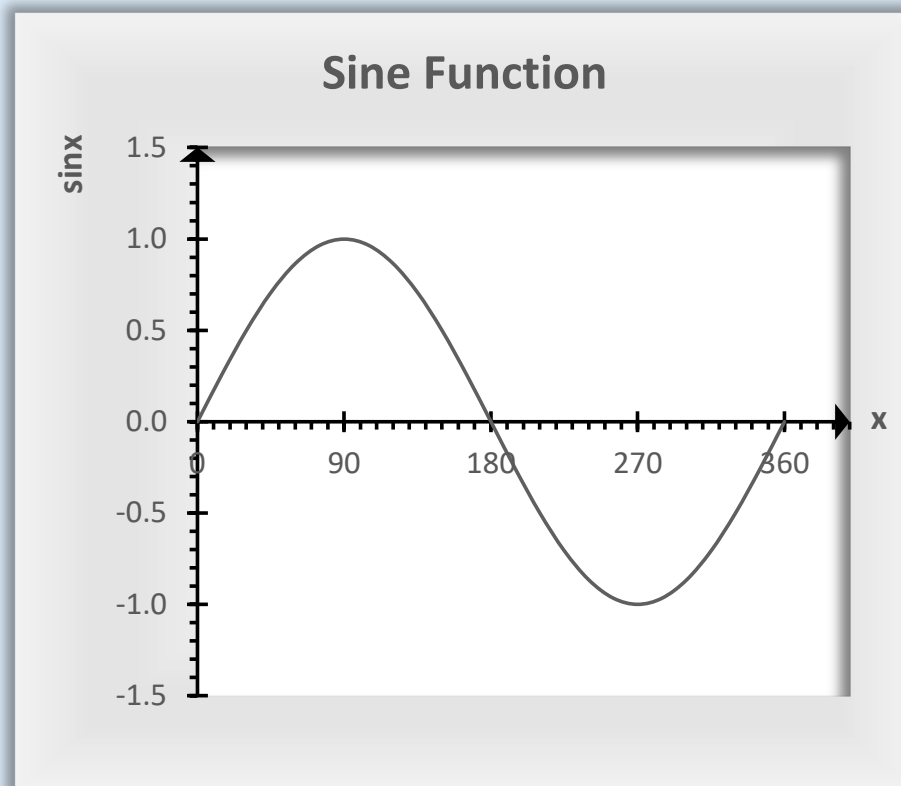


Fig. 2-21: Solution to Example 10 – Part II.

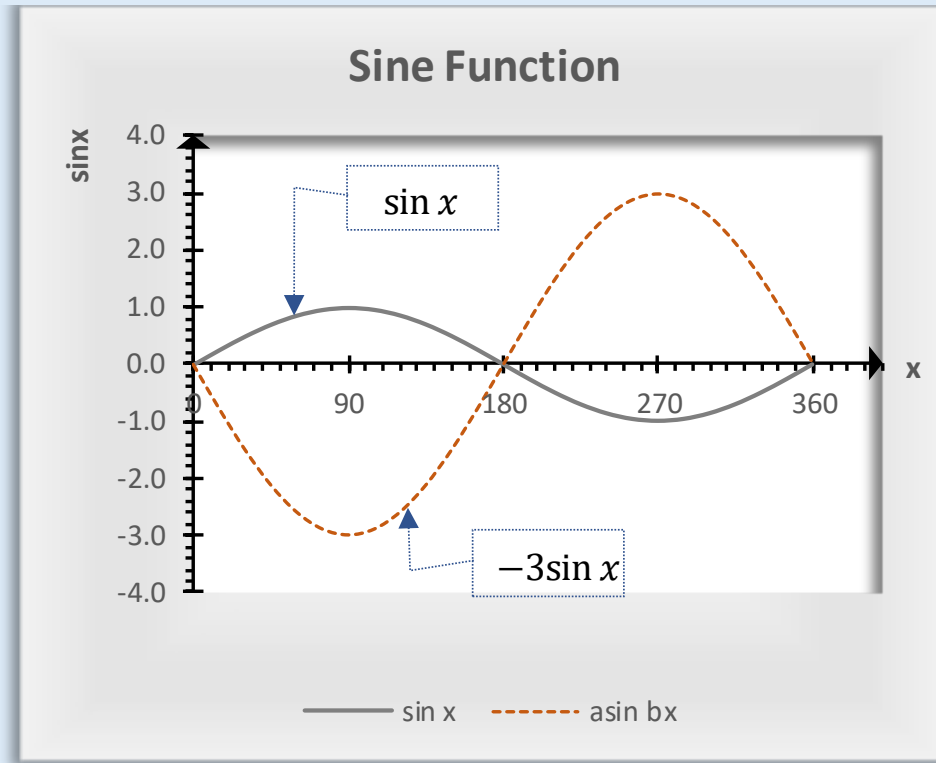
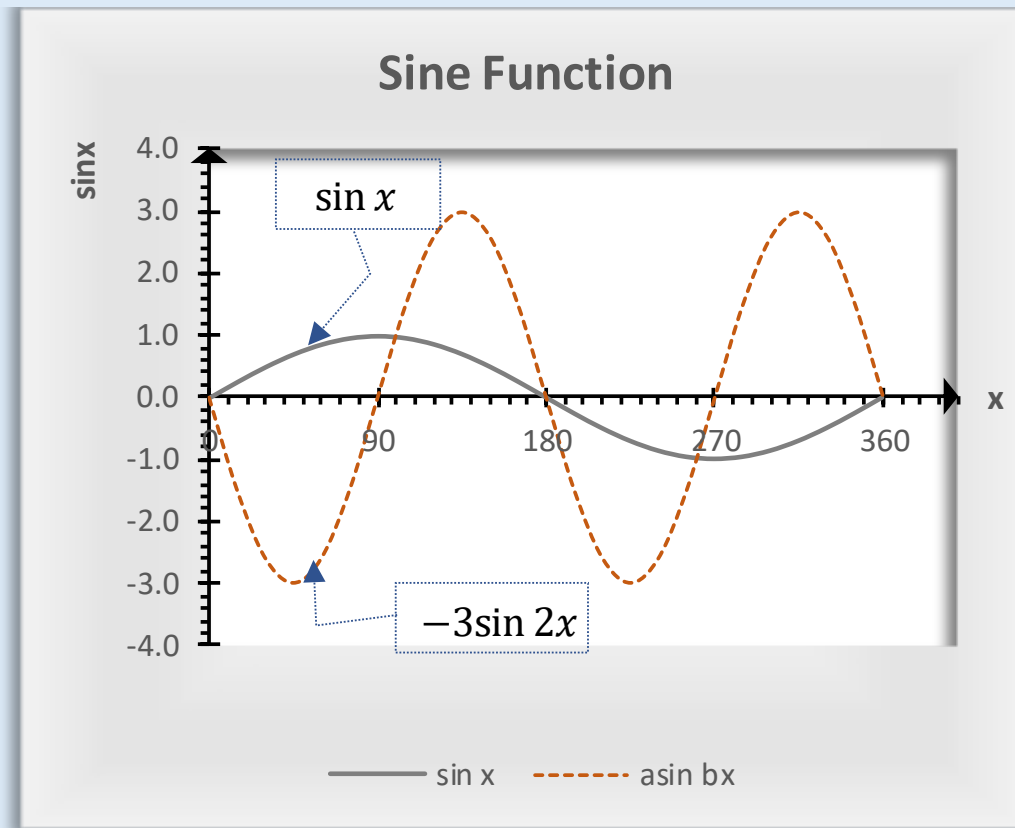


Fig. 2-22: Solution to Example 10 – Part III.



**Fig. 2-23: Solution to Example 11 – Part I.**

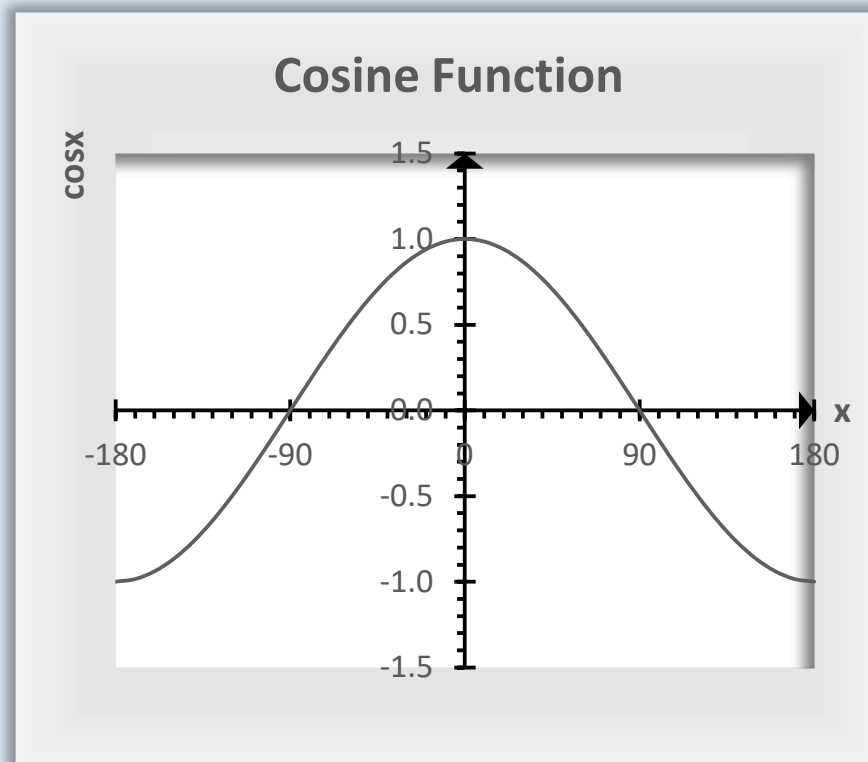




Fig. 2-24: Solution to Example 11 – Part II.

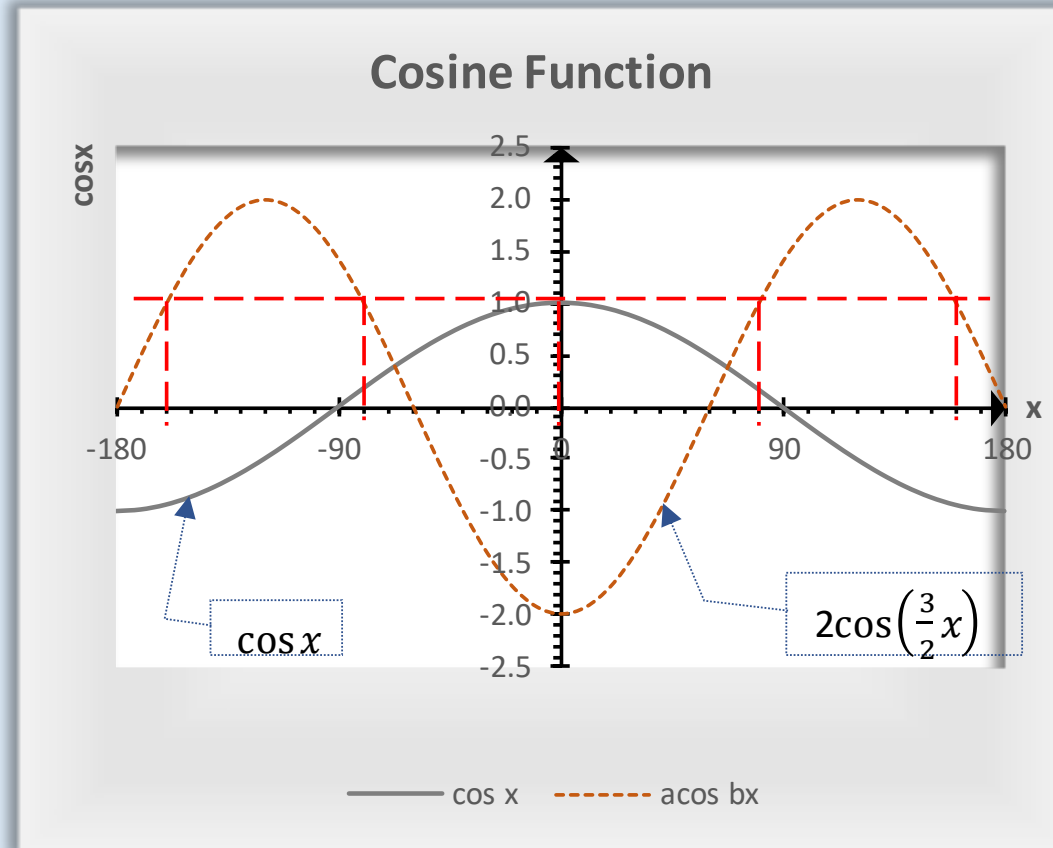


Fig. 2-25: Solution to Example 11 – Part III.

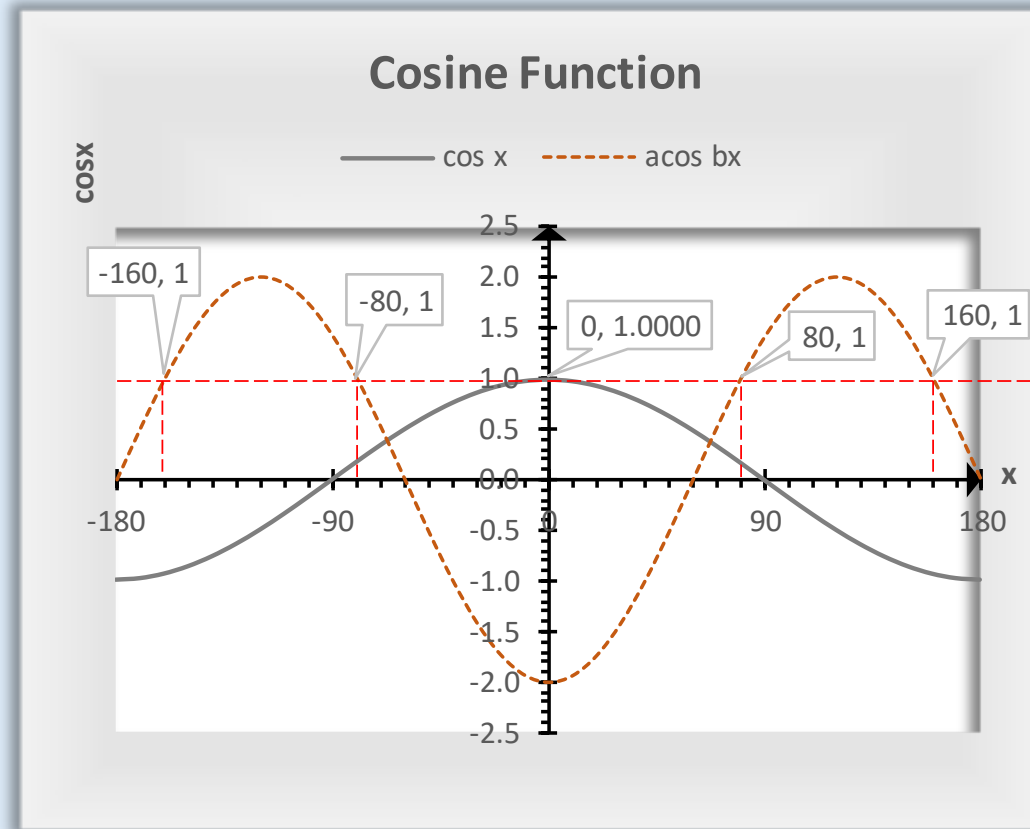


Fig. 2-26: Solution to Example 12 – Part I.

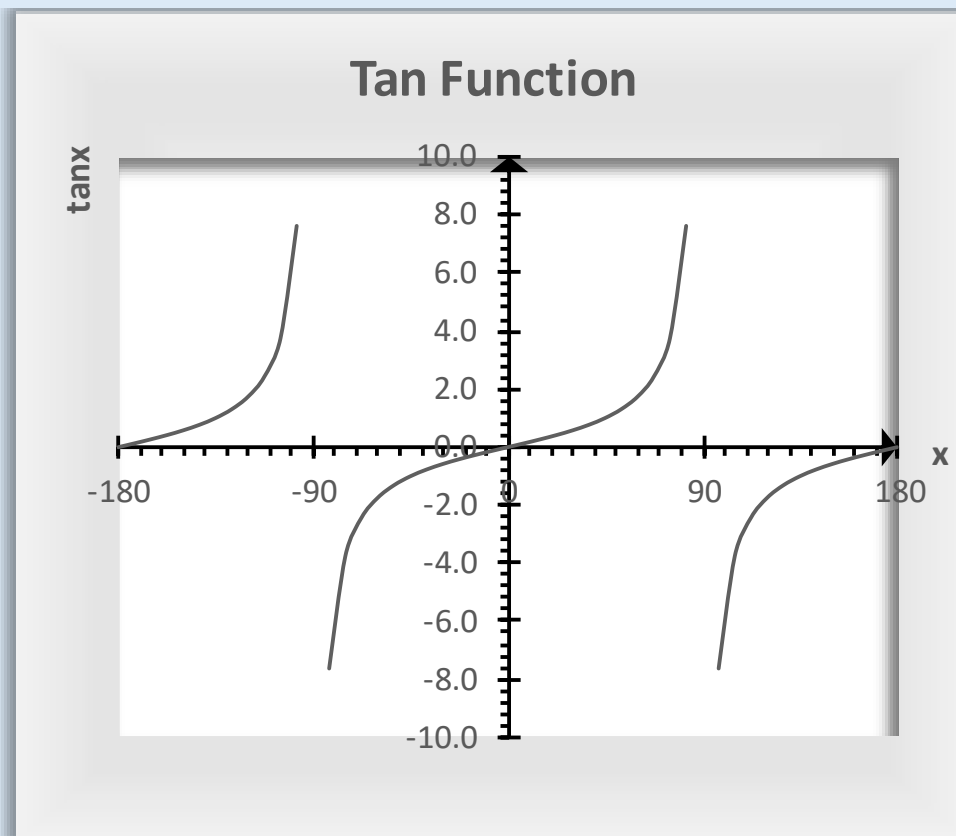
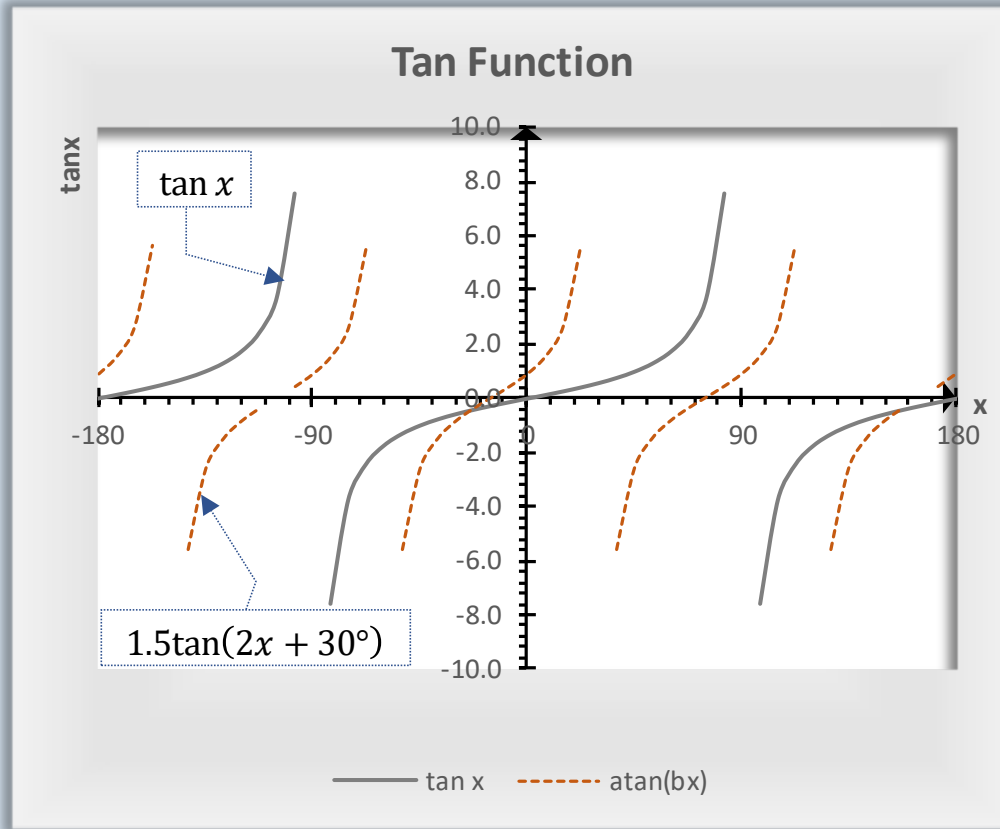


Fig. 2-27: Solution to Example 12 – Part II.



# Thank You

