

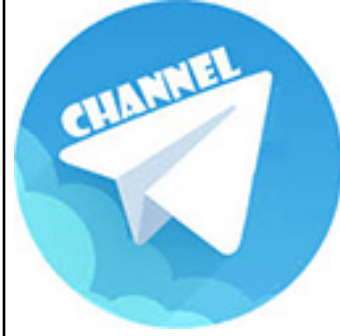
تم تحميل هذا الملف من موقع المناهج الإماراتية



الملف أوراق عمل الوحدة الثالثة Unit Review 3 مع الإجابات

موقع المناهج ← المناهج الإماراتية ← الصف الثاني عشر العام ← رياضيات ← الفصل الأول

روابط مواقع التواصل الاجتماعي بحسب الصف الثاني عشر العام



روابط مواد الصف الثاني عشر العام على تلغرام

[الرياضيات](#)

[اللغة الانجليزية](#)

[اللغة العربية](#)

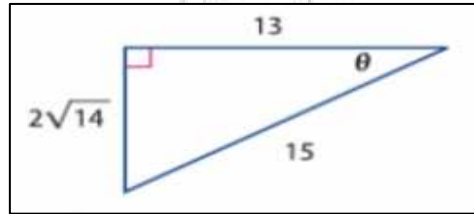
[التربية الاسلامية](#)

المزيد من الملفات بحسب الصف الثاني عشر العام والمادة رياضيات في الفصل الأول

| | |
|---|---|
| مراجعة عامة قبل امتحان نهاية الفصل الأول من | 1 |
| التوزيع الزمني للفصل الاول | 2 |
| الدوال من منظور التفاضل والتكامل | 3 |
| اسئلة اختيار متعدد | 4 |
| امسات رياضيات | 5 |

Choose the correct answer in the following questions:

1- Choose the correct answer in the following questions:



- a. $\sin\theta = \frac{2\sqrt{14}}{15}$, $\csc\theta = \frac{15}{2\sqrt{14}}$, $\cos\theta = \frac{13}{15}$, $\sec = \frac{15}{13}$, $\tan\theta = \frac{2\sqrt{14}}{13}$, $\cot\theta = \frac{13}{2\sqrt{14}}$
- b. $\sin\theta = \frac{2\sqrt{14}}{15}$, $\csc\theta = \frac{15}{15}$, $\cos\theta = \frac{15}{2\sqrt{14}}$, $\sec = \frac{15}{13}$, $\tan\theta = \frac{2\sqrt{14}}{13}$, $\cot\theta = \frac{13}{2\sqrt{14}}$
- c. $\sin\theta = \frac{2\sqrt{14}}{15}$, $\csc\theta = \frac{15}{2\sqrt{14}}$, $\cos\theta = \frac{2\sqrt{14}}{13}$, $\sec = \frac{15}{13}$, $\tan\theta = \frac{2\sqrt{14}}{13}$, $\cot\theta = \frac{13}{2\sqrt{14}}$
- d. $\sin\theta = \frac{13}{2\sqrt{14}}$, $\csc\theta = \frac{15}{2\sqrt{14}}$, $\cos\theta = \frac{13}{15}$, $\sec = \frac{15}{13}$, $\tan\theta = \frac{2\sqrt{14}}{13}$, $\cot\theta = \frac{13}{2\sqrt{14}}$

2- If $\sin\theta = \frac{4}{5}$, θ acute angle, find the remaining trigonometric functions values of θ :

- a. $\csc\theta = \frac{5}{4}$, $\cos\theta = \frac{3}{4}$, $\sec = \frac{5}{3}$, $\tan\theta = \frac{4}{3}$, $\cot\theta = \frac{3}{4}$
- b. $\csc\theta = \frac{5}{4}$, $\cos\theta = \frac{3}{5}$, $\sec = \frac{5}{3}$, $\tan\theta = \frac{4}{5}$, $\cot\theta = \frac{3}{4}$
- c. $\csc\theta = \frac{5}{4}$, $\cos\theta = \frac{3}{5}$, $\sec = \frac{5}{3}$, $\tan\theta = \frac{4}{3}$, $\cot\theta = \frac{3}{4}$
- d. $\csc\theta = \frac{5}{4}$, $\cos\theta = \frac{3}{5}$, $\sec = \frac{5}{3}$, $\tan\theta = \frac{4}{3}$, $\cot\theta = \frac{3}{5}$



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3-If $\sec\theta = 8$, θ acute angel, find the remaining trigonometric functions values of θ :

a. $\sin\theta = \frac{\sqrt{63}}{1}$, $\cos\theta = \frac{1}{8}$, $\csc\theta = \frac{8}{\sqrt{63}}$, $\tan\theta = \sqrt{63}$, $\cot\theta = \frac{1}{\sqrt{63}}$

b. $\sin\theta = \frac{\sqrt{63}}{8}$, $\cos\theta = \frac{1}{8}$, $\csc\theta = \frac{8}{\sqrt{63}}$, $\tan\theta = \sqrt{63}$, $\cot\theta = \frac{1}{\sqrt{63}}$

c. $\sin\theta = \frac{\sqrt{63}}{8}$, $\cos\theta = \frac{1}{8}$, $\csc\theta = \frac{8}{\sqrt{63}}$, $\tan\theta = \frac{\sqrt{63}}{8}$, $\cot\theta = \frac{1}{\sqrt{63}}$

d. $\sin\theta = \frac{\sqrt{63}}{8}$, $\cos\theta = \frac{1}{8}$, $\csc\theta = \frac{8}{\sqrt{63}}$, $\tan\theta = \sqrt{63}$, $\cot\theta = \frac{8}{\sqrt{63}}$

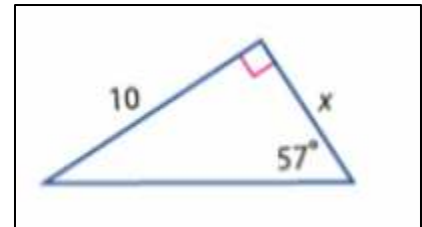
4- Use the graph below to find x to the nearest tenth:

a. $x \approx 6.49$

b. $x \approx 6.5$

c. $x \approx 11.9$

d. $x \approx 18.4$



5 - Ahmed built a snowboarding ramp with a height of 3.5 feet and an 18-degree incline. Find the length of the ramp to the nearest tenth?

a. 10.8 feet

b. 11.3 feet

c. 0.1 feet

d. 3.7 feet

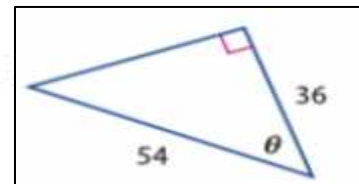
6- Use the graph below to find θ to the nearest hundredth:

a. 41.81°

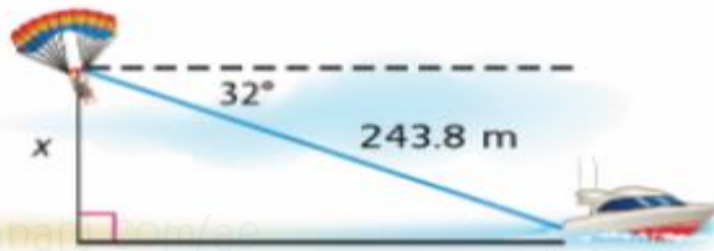
b. 48.2°

c. 33.68°

d. 48.19°



- 7- **PARASAILING** Eiman decided to try parasailing. She was strapped into a parachute towed by a boat. A 243.8-meter line connected her parachute to the boat, which was at a 32° angle of depression below her. How high above the water was Eiman? (Example 6)



a. 206.75 m

b. 152.34 m

c. 129.19 m

d. 150.16 m

- 8- If the point (5, -3) lies on the terminal side of an angle θ in standard position. find the value of the six trigonometric functions of θ ?

a. $\sin\theta = \frac{-3}{\sqrt{34}}$, $\cos\theta = \frac{5}{\sqrt{34}}$, $\tan\theta = \frac{-3}{5}$, $\csc\theta = \frac{-\sqrt{34}}{3}$, $\sec\theta = \frac{\sqrt{34}}{5}$, $\cot\theta = \frac{-5}{3}$

b. $\sin\theta = \frac{3}{\sqrt{34}}$, $\cos\theta = \frac{5}{\sqrt{34}}$, $\tan\theta = \frac{-3}{5}$, $\csc\theta = \frac{\sqrt{34}}{3}$, $\sec\theta = \frac{\sqrt{34}}{5}$, $\cot\theta = \frac{-5}{3}$

c. $\sin\theta = \frac{3}{\sqrt{34}}$, $\cos\theta = \frac{-5}{\sqrt{34}}$, $\tan\theta = \frac{-3}{5}$, $\csc\theta = \frac{\sqrt{34}}{3}$, $\sec\theta = \frac{-\sqrt{34}}{5}$, $\cot\theta = \frac{-5}{3}$

d. $\sin\theta = \frac{-3}{\sqrt{34}}$, $\cos\theta = \frac{-5}{\sqrt{34}}$, $\tan\theta = \frac{-3}{5}$, $\csc\theta = \frac{-\sqrt{34}}{3}$, $\sec\theta = \frac{-\sqrt{34}}{5}$, $\cot\theta = \frac{-5}{3}$



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9- Find the exact value of the trigonometric function $\csc \frac{-\pi}{6}$:

a. 2

b. *un defined*

c. -2

d. 0

10- Find the reference angle of the angle 300° :

a. 60°

b. 30°

c. -30°

d. 45°

11 - Find the reference angle of the angle $\frac{-7\pi}{3}$:

a. $\frac{\pi}{4}$

b. $\frac{\pi}{6}$

c. $\frac{-\pi}{3}$

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

12- Find the exact value of the trigonometric function $\sec \frac{7\pi}{4}$:

a. $\sqrt{2}$

b. $\frac{1}{\sqrt{2}}$

c. $-\sqrt{2}$

d. $\frac{-1}{\sqrt{2}}$

13- Find the exact value of the five remaining trigonometric functions of Θ , If $\cos \Theta = \frac{-12}{13}$, were $\sin \Theta < 0$

a. $\sin \theta = \frac{-5}{13}$, $\tan \theta = \frac{5}{12}$, $\csc \theta = \frac{-13}{5}$, $\sec \theta = \frac{-13}{12}$, $\cot \theta = \frac{12}{5}$

b. $\sin \theta = \frac{5}{13}$, $\tan \theta = \frac{5}{12}$, $\csc \theta = \frac{13}{5}$, $\sec \theta = \frac{-13}{12}$, $\cot \theta = \frac{12}{5}$

c. $\sin \theta = \frac{-5}{13}$, $\tan \theta = \frac{-5}{12}$, $\csc \theta = \frac{-13}{5}$, $\sec \theta = \frac{-13}{12}$, $\cot \theta = \frac{-12}{5}$

d. $\sin \theta = \frac{-5}{13}$, $\tan \theta = \frac{5}{12}$, $\csc \theta = \frac{-13}{5}$, $\sec \theta = \frac{13}{12}$, $\cot \theta = \frac{12}{5}$



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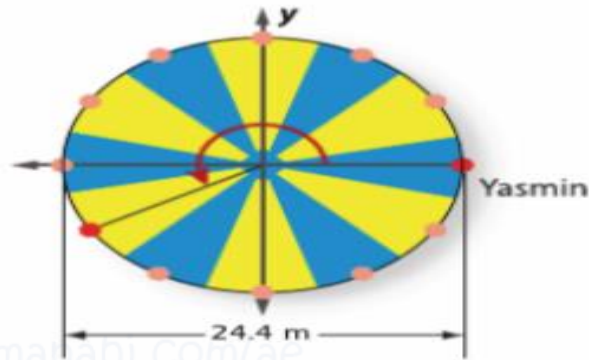
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- 14- **CAROUSEL** Yasmin is on a carousel at the carnival. The diameter of the carousel is 24.4 meters. Find the position of her seat from the center of the carousel after a rotation of 210° . (Example 6)



Note that rotation is counterclockwise. And approximate to the nearest hundredth.

- a. 6.1 meter left the center and then 10.57m down
 b. 10.57 meter left the center and then 6.1 m up
 c. 10.57 meter right the center and then 6.1 m down
 d. 10.57 meter left the center and then 6.1 m down

- 15- If $\sin(-\theta) = \frac{3}{5}$, find $\cos(-\theta)$, θ positive?

a. $\frac{-4}{5}$

b. $\frac{-4}{3}$

c. $\frac{4}{5}$

d. $\frac{3}{4}$

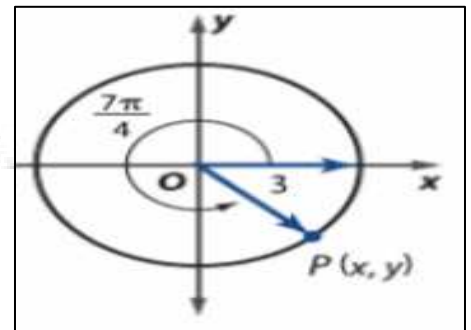
- 16- Use the graph to find the coordinates of P

a. $(\frac{3\sqrt{2}}{2}, \frac{-3\sqrt{2}}{2})$

b. $(\frac{-3\sqrt{2}}{2}, \frac{3\sqrt{2}}{2})$

c. $(\frac{-\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$

d. $(\frac{3\sqrt{2}}{2}, \frac{3\sqrt{2}}{2})$



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17- State the amplitude, the period, frequency and midline for $f(x) = 3 \sin \left(3x - \frac{\pi}{3} \right) - 2$

a. *Amplitude*:3 , period : 2π , frequency : $\frac{1}{2\pi}$, midline : $y = 2$

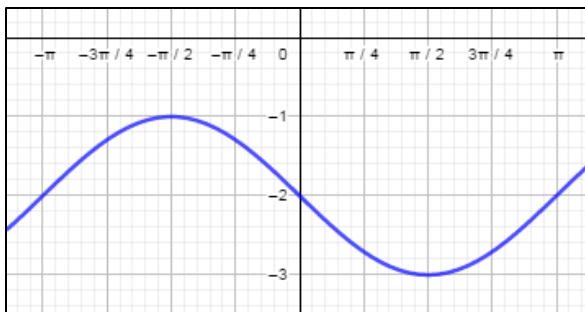
b. *Amplitude*:3 , period : π , frequency : $\frac{1}{\pi}$, midline : $y = 2$

c. *Amplitude*:3 , period : $\frac{2\pi}{3}$, frequency : $\frac{3}{2\pi}$, midline : $y = 4$

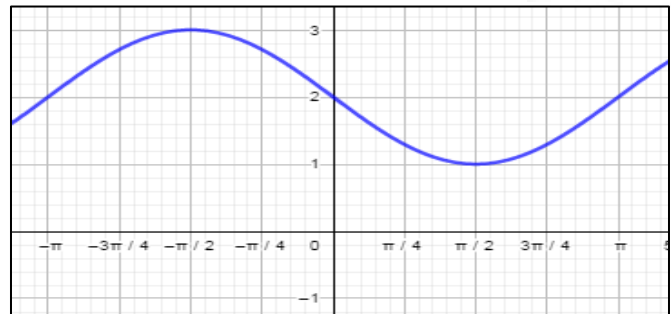
d. *Amplitude*:3 , period : $\frac{2\pi}{3}$, frequency : $\frac{3}{2\pi}$, midline : $y = 2$

18- Use the graph of $\sin x$ to graph $g(x) = -\sin(x) + 2$:

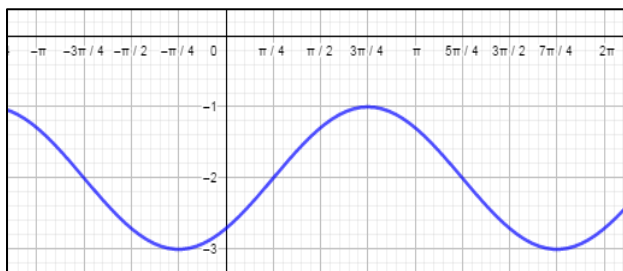
a.



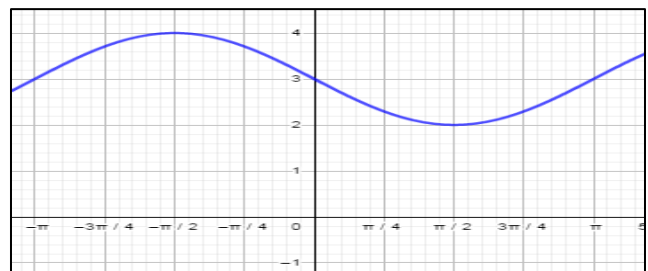
b.



c.

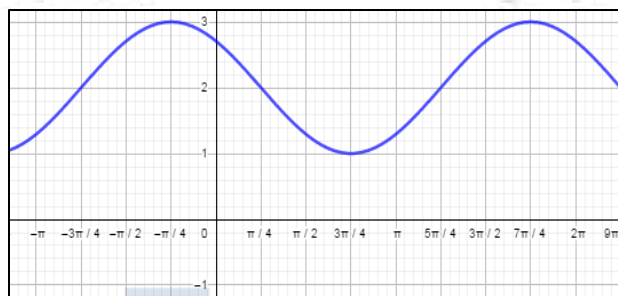


d.

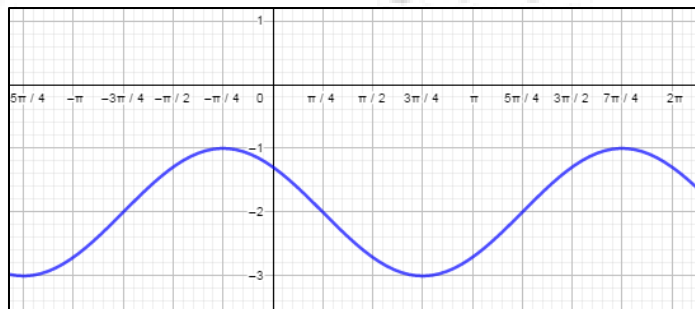


19- Use the graph of $\sin x$ to graph $g(x) = -\sin(x - \frac{\pi}{4}) + 2$:

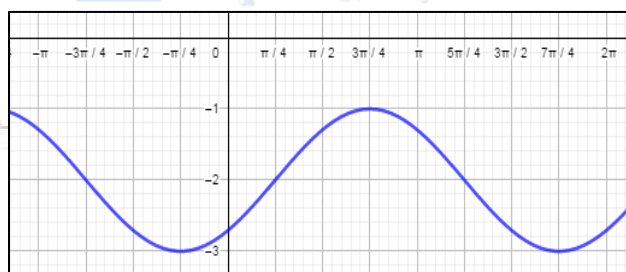
a.



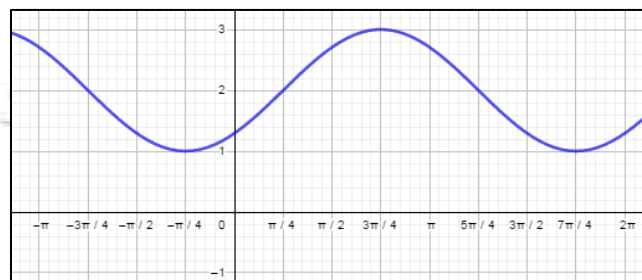
b.



c.



d.



20- Write a sine function that can be used to model the initial behavior of a sound wave with frequency $f = 440$ and amplitude $a = 0.3$:

a. $0.3 \sin(440\pi x)$

b. $0.3 \sin(880\pi x)$

c. $0.3 \sin(880x)$

d. $0.3 \sin(440x)$



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21 Write an equation of a sinusoidal function that satisfies

the period = π , amplitude = 5, passes through the point $(\frac{\pi}{6}, \frac{5}{2})$

a. $y = 5\cos(2x)$

b. $y = 5\sin(2x)$

c. $y = 5\sin(2x - \frac{\pi}{6})$

d. a and c

22-

METEOROLOGY The average monthly temperatures for Boston, Massachusetts are shown. (Example 7)

| Month | Temp. (°F) | Month | Temp. (°F) |
|-------|------------|-------|------------|
| Jan | 29 | Jul | 74 |
| Feb | 30 | Aug | 72 |
| Mar | 39 | Sept | 65 |
| Apr | 48 | Oct | 55 |
| May | 58 | Nov | 45 |
| Jun | 68 | Dec | 34 |

Write an equation of a sinusoidal function that models the monthly temperatures:

a. $22.5 \cos\left(\frac{\pi}{6}x - \frac{7\pi}{6}\right) + 51.5$

b. $22.5 \cos\left(\frac{\pi}{8}x - \frac{7\pi}{6}\right) + 51.5$

c. $22.5 \cos\left(\frac{\pi}{6}x + \frac{7\pi}{6}\right) + 51.5$

d. $22.5 \cos\left(\frac{\pi}{6}x - \frac{5\pi}{6}\right) + 51.5$



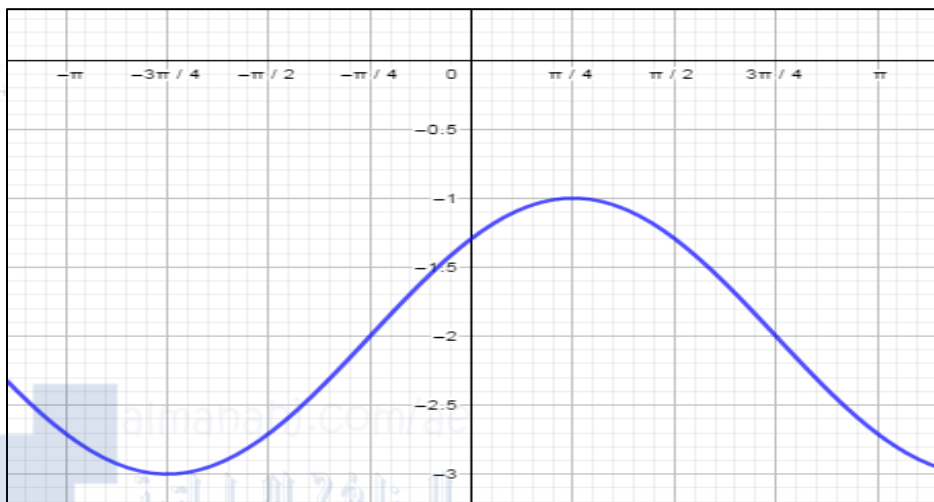
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23-Write the equation that correspond to the graph:



a. $\sin\left(x + \frac{\pi}{4}\right) - 2$

b. $\sin\left(x + \frac{\pi}{2}\right) - 2$

c. $\sin\left(x + \frac{\pi}{4}\right) + 2$

d. $\sin\left(x + \frac{\pi}{3}\right) - 2$

24-Write an equation of a sinusoidal function that satisfies

the period = π , amplitude = 5, passes through the point $\left(\frac{\pi}{6}, \frac{5}{2}\right)$

a. $y = 5\cos(2x)$

b. $y = 5\sin(2x)$

c. $y = 5\sin\left(2x - \frac{\pi}{6}\right)$

d. *a and c*



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25- Find the vertical asymptotes to $y = -3 \tan\left(\frac{x}{3}\right)$ in $[-2\pi, 2\pi]$?

a. $x = \frac{-3\pi}{4}$, $x = \frac{3\pi}{4}$

b. $x = \frac{-3\pi}{2}$, $x = \frac{3\pi}{2}$

c. $x = \frac{-\pi}{2}$, $x = \frac{\pi}{2}$

d. $x = \frac{-\pi}{3}$, $x = \frac{\pi}{3}$

26- The consecutive vertical asymptotes to $y = \cot\left(x - \frac{\pi}{6}\right)$ are:

a. $x = \frac{\pi}{6}$, $x = \frac{7\pi}{6}$

b. $x = 0$, $x = \pi$

c. $x = \frac{\pi}{2}$, $x = \frac{7\pi}{2}$

d. $x = \frac{-\pi}{3}$, $x = \frac{7\pi}{3}$

27 - The consecutive vertical asymptotes to $y = \csc\left(x - \frac{2\pi}{3}\right)$?

a. $x = \frac{-\pi}{3}$, $x = \frac{2\pi}{3}$

b. $x = 0$, $x = \pi$

c. $x = \frac{\pi}{3}$, $x = \frac{-5\pi}{3}$

d. $x = \frac{-\pi}{3}$, $x = \frac{7\pi}{3}$

28- The vertical asymptotes to $y = \tan\left(2x - \frac{3\pi}{2}\right)$ are :

a. $\left\{x = n\left(\frac{\pi}{3}\right) : n \in \mathbb{Z}\right\}$

b. $\left\{x = n\left(\frac{\pi}{4}\right) : n \in \mathbb{Z}\right\}$

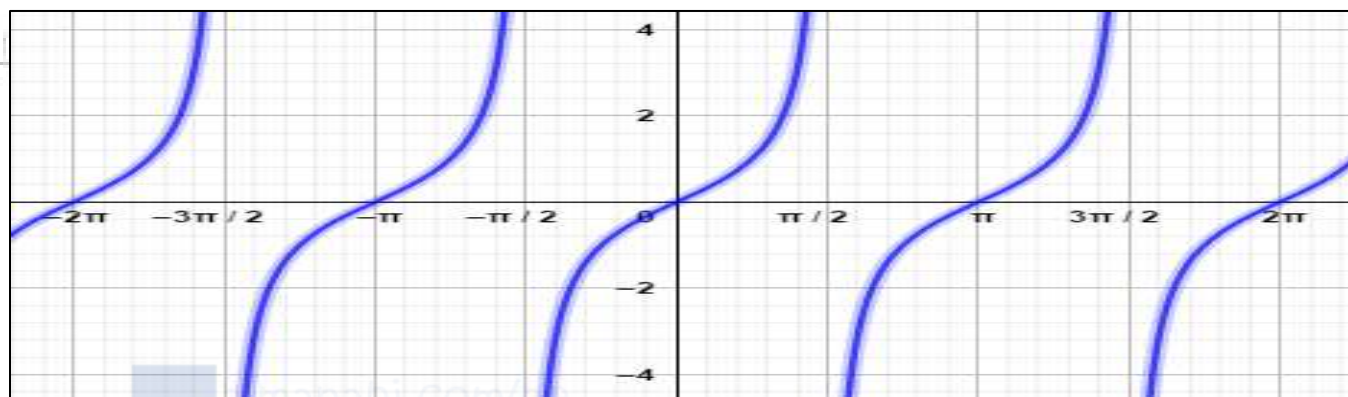
c. $\left\{x = n\left(\frac{\pi}{2}\right) : n \in \mathbb{Z}\right\}$

d. $\left\{x = n\left(\frac{\pi}{5}\right) : n \in \mathbb{Z}\right\}$

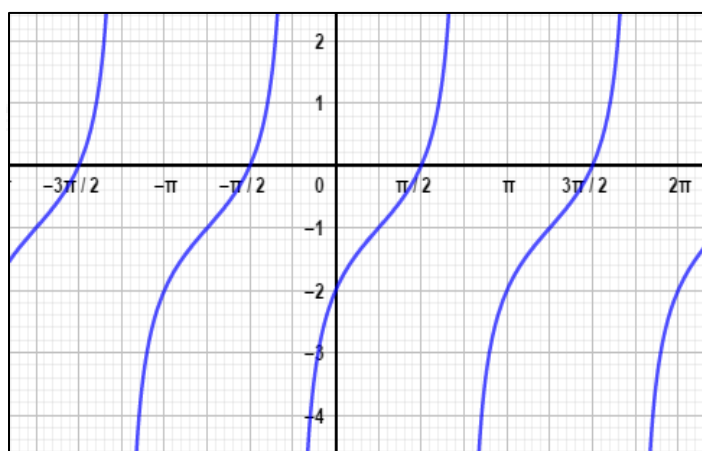


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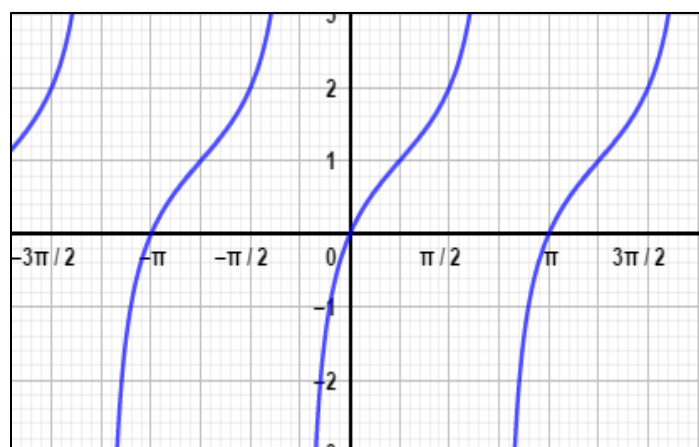
29- Use the graph of $\tan x$ to graph $g(x) = \tan(x - \frac{\pi}{4}) + 1$:



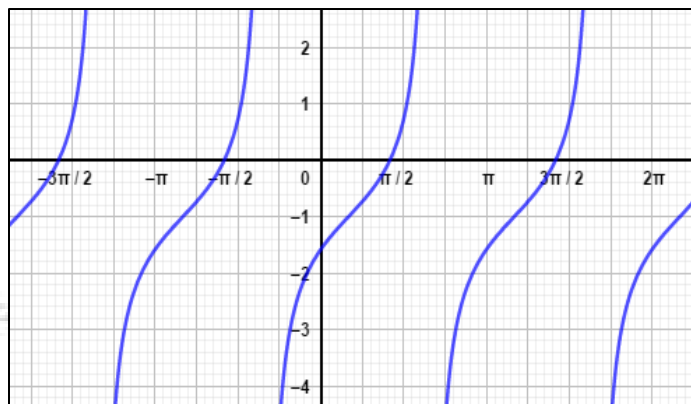
a.



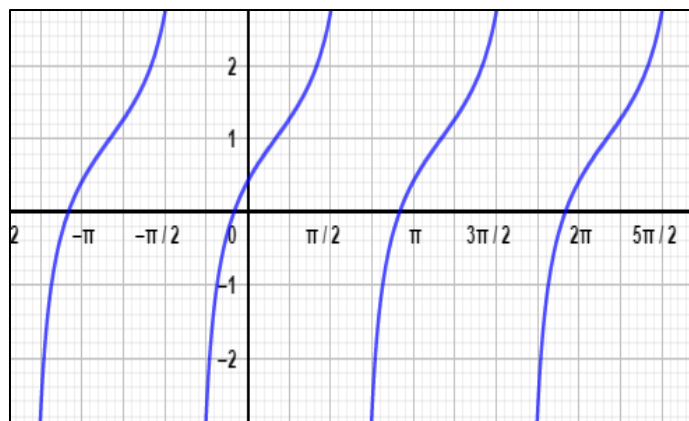
b.



c.



d.



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30- Identify the damping factor $f(x)$ of $y = 2x^2 \sin 2x$:

a. $2x^2$

b. x

c. $2x$

d. $4x$

31- Identify the damping factor $f(x)$ of $y = 2^x \sin 2x$ and describe the behavior

Of the graph?

a. 2^x , *decreasing the amplitude as x approach ∞*

b. 2^x , *decreasing the amplitude as x approach $-\infty$*

c. 2^x , *decreasing the amplitude as x approach 0*

d. x^2 , *decreasing the amplitude as x approach $-\infty$*

32- For a function y , if the period is 3π and vertical shift 2 up, then the function y is:

a. $\sin\left(\frac{2x}{3} + \pi\right) + 2$

b. $\cos\left(\frac{2x}{3} + \pi\right) + 2$

c. $\tan\left(\frac{x}{3} + \pi\right) + 2$

d. *All answers*

33- The exact value of $\sin^{-1}\left(\frac{\sqrt{3}}{2}\right) =$

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

b. $\frac{\pi}{6}$

c. $\frac{-\pi}{3}$

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



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34- The exact value of $\cos^{-1}\left(\frac{\sqrt{2}}{2}\right) =$

a. $\frac{\pi}{4}, \frac{3\pi}{4}$

b. $\frac{\pi}{4}$

c. $\frac{\pi}{6}$

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

35- The exact value of $\tan^{-1}(-1) =$

a. $\frac{3\pi}{4}, \frac{-\pi}{4}$

b. $\frac{\pi}{4}$

c. $\frac{\pi}{6}$

d. $\frac{-\pi}{4}$

36- The exact value of $\arcsin(2) =$

a. $\frac{3\pi}{4}$

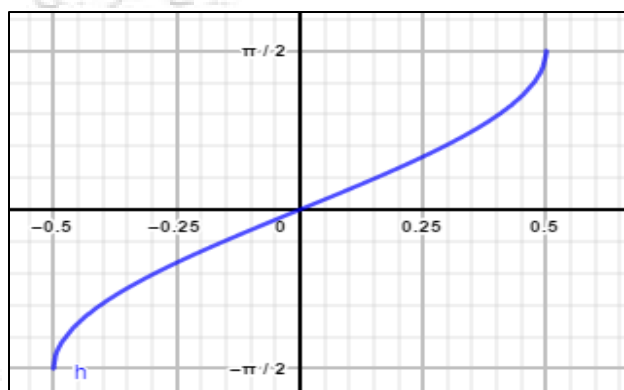
b. *Not exist*

c. $\frac{\pi}{6}$

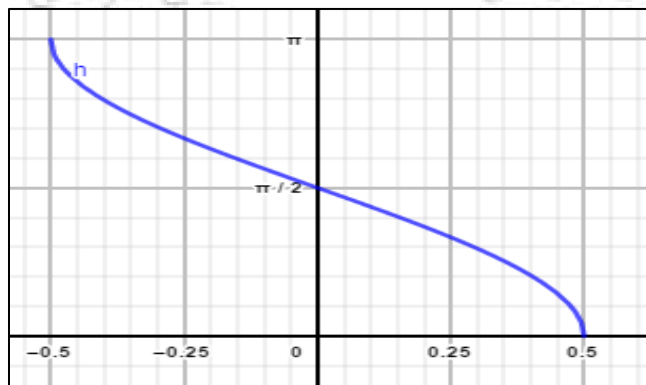
d. $\frac{\pi}{3}$

37- The graph of $\sin^{-1}(2x)$ is:

a.



b.



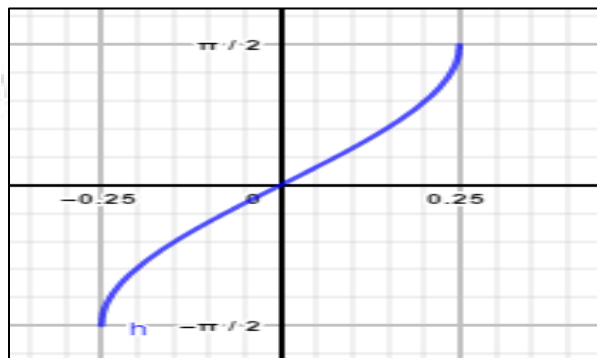
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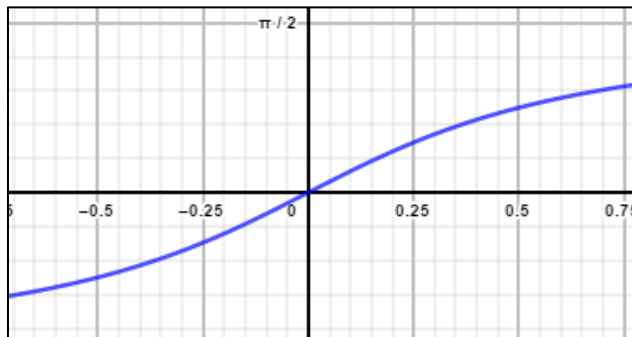
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c.

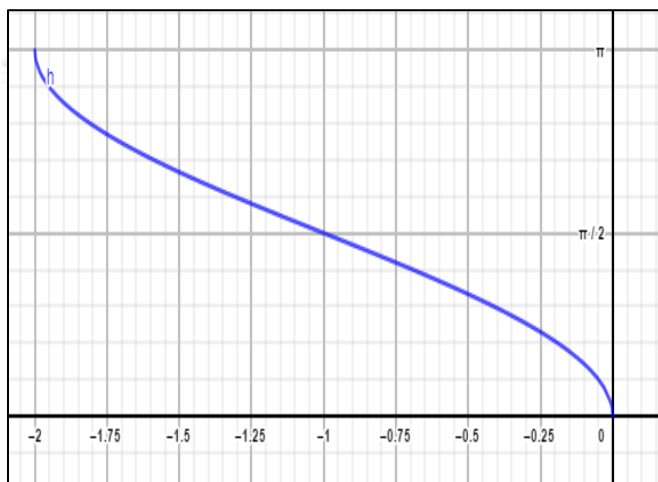


d-

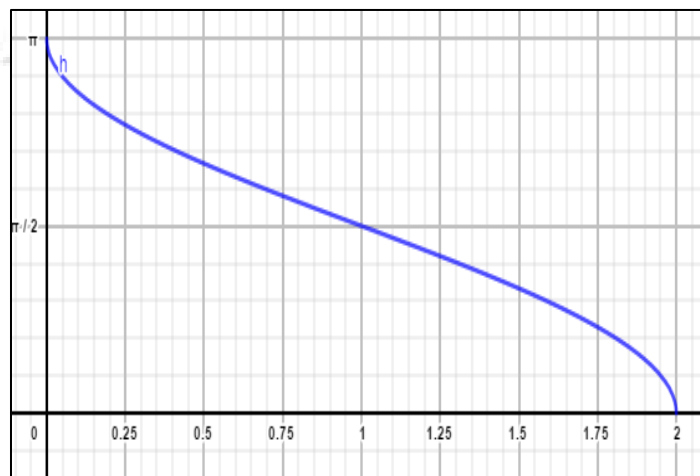


38- The graph of $\cos^{-1}(x - 1)$ is:

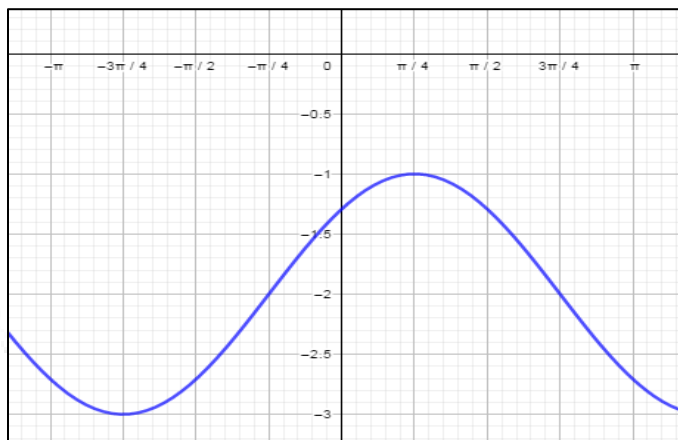
a.



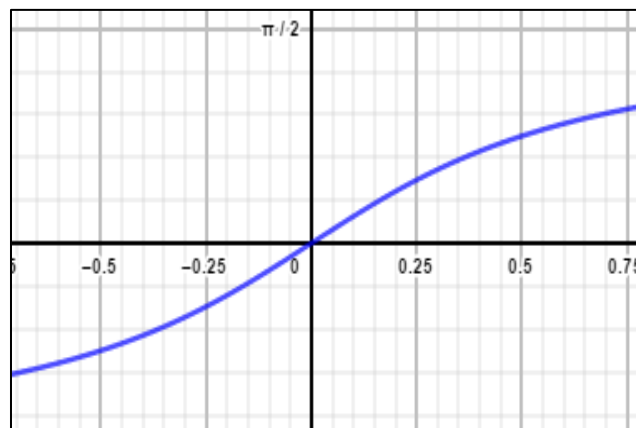
b.



c.

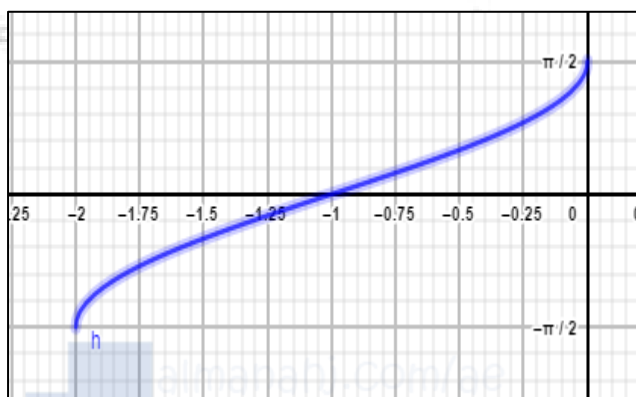


d-



39- The graph of $\tan^{-1}(2x)$ is:

a.



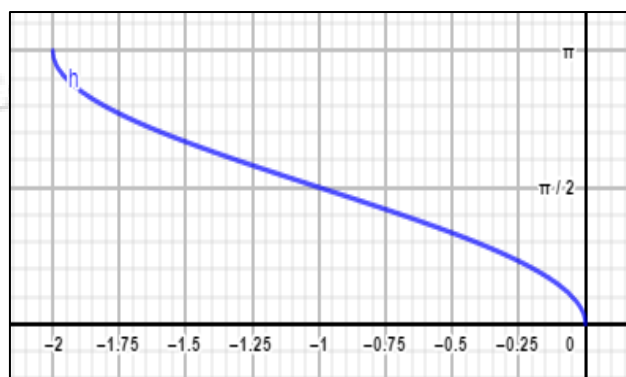
b.



c.



d-



40- The exact value of $\sin(\sin^{-1}(\frac{3}{4})) =$

a.

$$\frac{3}{4}$$

b.

Not exist

c.

$$\frac{1}{2}$$

d.

$$\frac{-3}{4}$$



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Review Unit 3

41-The exact value of $\sin^{-1}(\sin(\frac{5\pi}{4})) =$

a. $\frac{\pi}{4}$

b. *Not exist*

c. $\frac{-\pi}{4}$

d. $\frac{5\pi}{4}$

42- The exact value of $\cos(\cos^{-1}(2)) =$

a. $\frac{\pi}{4}$

b. *Not exist*

c. $\frac{-\pi}{4}$

d. $\frac{5\pi}{4}$

43-The exact value of $\sin(2\cos^{-1}(\frac{\sqrt{2}}{2})) =$

a. -1

b. *Not exist*

c. 1

d. 0

44- The exact value of $\sin(\tan^{-1}(1) - \sin^{-1}(1)) =$

a. $\frac{\sqrt{2}}{2}$

b. *Not exist*

c. $\frac{-1}{2}$

d. $\frac{-\sqrt{2}}{2}$

45- The exact value of $\tan(\cos^{-1}(\frac{3}{5})) =$

a. $\frac{5}{3}$

b. *Not exist*

c. $\frac{4}{5}$

d. $\frac{4}{3}$



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Review Unit 3

46- The exact value of $\sec(\sin^{-1}x) =$

a. $\frac{1}{\sqrt{1-x^2}}$

b. *Not exist*

c. $\frac{1}{\sqrt{1+x^2}}$

d. $\sqrt{1-x^2}$

47- Write the expression $\frac{x}{\sqrt{1-x^2}}$ as a trigonometric function of the

Inverse trigonometric function of x.

a. $\cos(\sin^{-1}x)$

b. $\tan(\cos^{-1}x)$

c. $\tan(\sin^{-1}x)$

d. $\sin(\cos^{-1}x)$

48- If $\cos \theta = \frac{-1}{3}$, θ in the third quarter find $\sin \theta$?

a. $\frac{-\sqrt{2}}{3}$

b. $\frac{-2\sqrt{2}}{3}$

c. $\frac{-2\sqrt{2}}{1}$

d. $\frac{2\sqrt{2}}{3}$

49- If $\sec \theta = 2$, $\tan \theta = -\sqrt{3}$ find $\sin \theta$?

a. $\frac{-\sqrt{3}}{2}$

b. $\frac{-\sqrt{3}}{1}$

c. $\frac{\sqrt{3}}{2}$

d. $\frac{-2}{\sqrt{3}}$



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Review Unit 3

50- If $\csc \theta = -1.24$ find $\sec(\theta - \frac{\pi}{2})$?

a. -1.24

b. $\frac{-1}{1.24}$

c. 1.24

d. $\frac{-1}{1.24}$

51- $\csc x \sec x - \tan x =$

a. $\frac{1}{\sin x \cos x}$

b. $\frac{\sin x}{\cos x}$

c. $\sec x$

d. $\cot x$

52- $\frac{1 - \cos x}{\tan x} - \frac{\sin x}{1 + \cos x} =$

a. $\frac{\sin x}{1 + \cos x}$

b. $\cos x$

c. $\sin x$

d. $\sin^2 x$



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Review Unit 3

53 - $\sin x - \sin x \cos^2 x = :$

a. $\cos^3 x$

b. $-\sin^3 x$

c. $-\cos^3 x$

d. $\sin^3 x$

54- $\csc x - \cos x \cot x = :$

a. $\cos x$

b. $\sin x$

c. $-\sin x$

d. $-\cos x$

55- $\frac{\sin x}{1-\cos x} + \frac{1-\cos x}{\sin x} =$

a. $2\csc x$

b. $\sec x$

c. $-2\csc x$

d. $-\csc x$

