ONTARIO ADVANCED FUNCTIONS, GRADE 12, UNIVERSITY PREPARATION (MHF4U) · UNIT C · 25 QUESTIONS

Trigonometric Functions — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A model $h(t) = 4 \sin t + 10$ has minimum value**

- A 10
- B 6
- C 14
- D 0

Understand It with Pulse | Flag a mistake

2 **The amplitude of $y = 2 \cos x$ is**

- A 3
- B 1
- C 2
- D 13

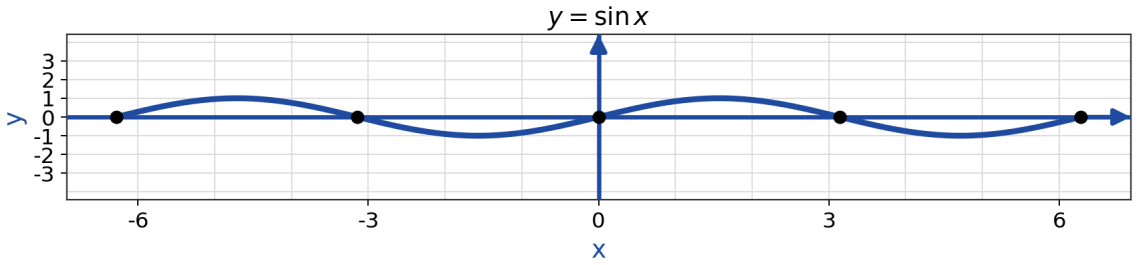
Understand It with Pulse | Flag a mistake

3 **The exact value of sin 30° is**

- **A** $\sqrt{3}/2$
- **B** $\sqrt{2}/2$
- **C** $\frac{1}{2}$
- **D** 1

Understand It with Pulse | Flag a mistake

4 **The graph shows a trigonometric function. Its amplitude is Figure 1**



- **A** 2
- **B** 1
- **C** 3
- **D** 12

Understand It with Pulse | Flag a mistake

5 **The period, in radians, of y = sin 2x is**

A 2π

B π/2

C π

D 2π/3

Understand It with Pulse | Flag a mistake

6 **The reference angle for 120° in degrees, is**

A 60

B 90

C 71

D 49

Understand It with Pulse | Flag a mistake

7 **A model $h(t) = 4 \sin t + 10$ has maximum value**

- **A** 10
- **B** 4
- **C** 15
- **D** 14

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8 **If $\sin x = \frac{3}{5}$ and x is acute, then cos x is**

- **A** $\frac{3}{5}$
- **B** $\frac{5}{3}$
- **C** $\frac{4}{5}$
- **D** $\frac{5}{4}$

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9 The period, in degrees, of $y = \sin 6x$ is

- A 90
- B 360
- C 180
- D 60

Understand It with Pulse | Flag a mistake

10 The solutions of $\cos x = 0$ in the interval $0 \leq x < 4\pi$ are, in radians,

- A $\pi/2, 3\pi/2, 5\pi/2, 7\pi/2$
- B $0, \pi, 2\pi, 3\pi$
- C $\pi/2, 3\pi/2$
- D $0, \pi/2, \pi$

Understand It with Pulse | Flag a mistake

11 **The solutions of cos x = 0 in the interval 0 ≤ x < 2π include which pair, in radians? The pair is**

- **A** 0, π
- **B** π/2, 3π/2
- **C** π/2, π
- **D** 0, π/2

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12 **The value of sin² 30° + cos² 30° is**

- **A** 0
- **B** 2
- **C** -1
- **D** 1

Understand It with Pulse | Flag a mistake

13 **A model h(t) = 5 sin t + 20 has minimum value**

A 20

B 25

C 0

D 15

Understand It with Pulse | Flag a mistake

14 **The amplitude of y = 3 cos x is**

A 4

B 2

C 1

D 3

Understand It with Pulse | Flag a mistake

15 **The exact value of sin 45° is**

A $\sqrt{2}/2$

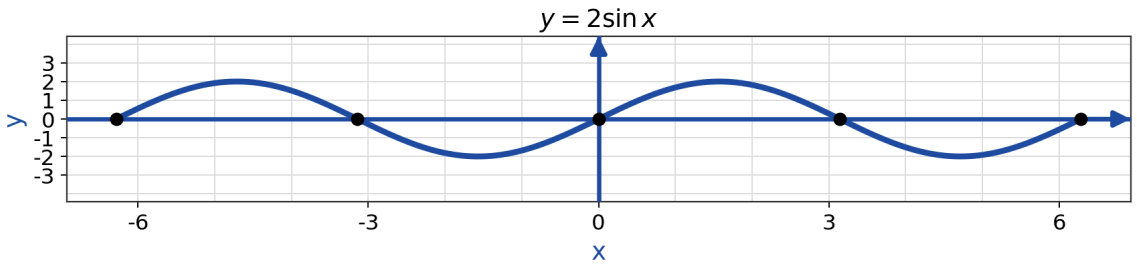
B $\frac{1}{2}$

C $\sqrt{3}/2$

D 1

Understand It with Pulse | Flag a mistake

16 **The graph shows a trigonometric function. Its amplitude is Figure 2**



A 3

B 2

C 4

D 1

Understand It with Pulse | Flag a mistake

17 **The period, in radians, of y = sin 3x is**

A 2π

B π

C π/3

D 2π/3

Understand It with Pulse | Flag a mistake

18 **The reference angle for 150° in degrees, is**

A 60

B 41

C 90

D 30

Understand It with Pulse | Flag a mistake

19 **A model h(t) = 5 sin t + 20 has maximum value**

A 20

B 25

C 5

D 26

Understand It with Pulse | Flag a mistake

20 **A model h(t) = 3 sin t + 15 has minimum value**

A 15

B 12

C 18

D 0

Understand It with Pulse | Flag a mistake

21 The amplitude of $y = 4 \cos x$ is

- A 4
- B 5
- C 3
- D 1

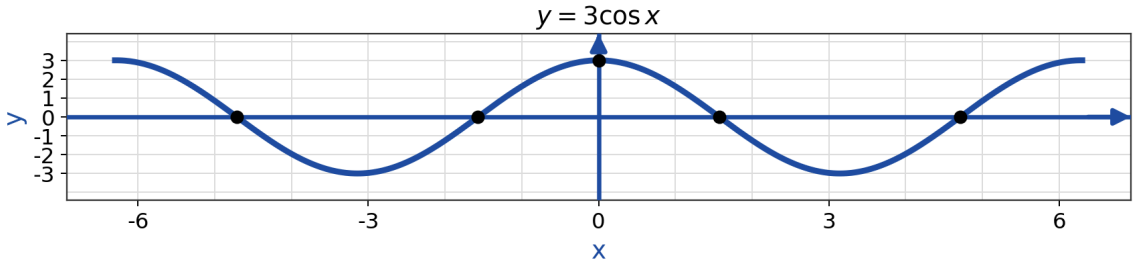
Understand It with Pulse | Flag a mistake

22 The exact value of $\sin 60°$ is

- A $\frac{1}{2}$
- B $\sqrt{3}/2$
- C $\sqrt{2}/2$
- D 1

Understand It with Pulse | Flag a mistake

23 **The graph shows a trigonometric function. Its amplitude is Figure 3**



A 4

B 3

C 5

D 1

Understand It with Pulse | Flag a mistake

24 **The period, in radians, of y = sin 4x is**

A π/2

B 2π

C π

D π/3

Understand It with Pulse | Flag a mistake

25 **The reference angle for 210° in degrees, is**

A 30

B 60

C 40

D 90

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	B	**10.**	A	**19.**	B
2.	C	**11.**	B	**20.**	B
3.	C	**12.**	D	**21.**	A
4.	B	**13.**	D	**22.**	B
5.	C	**14.**	D	**23.**	B
6.	A	**15.**	A	**24.**	A
7.	D	**16.**	B	**25.**	A
8.	C	**17.**	D		
9.	D	**18.**	D		

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