# Trigonometric Equations and Identities — 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 **The smallest nonnegative angle in degrees whose sine is 0 is**

ANSWER _____

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2 **The smallest nonnegative angle in degrees whose sine is 0.5 is**

ANSWER _____

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3 **The smallest nonnegative angle in degrees whose sine is 0.707 is**

ANSWER _____

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4 **For any angle, $\sin^2 + \cos^2$ equals**

ANSWER _____

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5 **If $\sin x = 0.6$ , then $\cos^2 x$ is**

ANSWER _____

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6 **The smallest nonnegative angle in degrees whose sine is 0.5 and which is obtuse is**

ANSWER _____

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7 **The value of $\sin^2 + \cos^2$ for an angle of 0 degrees is**

ANSWER _____

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8 **The value of $\sin^2 + \cos^2$ for an angle of 30 degrees is**

ANSWER _____

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9 **The value of $\sin^2 + \cos^2$ for an angle of 45 degrees is**

ANSWER _____

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10 **The identity $\sin^2 x + \cos^2 x = 1$ is called the**

A Pythagorean identity

B double angle identity

C sum identity

D reciprocal identity

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**11** The tangent of 45 degrees is

ANSWER _____

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**12** If $\sin x = \frac{3}{5}$ and $\cos x = \frac{4}{5}$, then tan x is

ANSWER _____

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**13** tan of 30 degrees to three decimal places is

ANSWER _____

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**14** tan of 45 degrees to three decimal places is

ANSWER _____

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15 **tan of 60 degrees to three decimal places is**

ANSWER _____

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16 **The tangent of an angle is undefined when the angle is**

A 0 degrees

B 90 degrees

C 45 degrees

D 180 degrees

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17 **The smallest nonnegative angle whose sine is 0.5 is, in degrees,**

ANSWER _____

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18 **The smallest nonnegative angle whose cosine is 0 is, in degrees,**

ANSWER _____

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19 **The equation sin x = 1 has this many solutions between 0 and 360 degrees inclusive**

ANSWER _____

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20 **The equation cos x = 0 has this many solutions between 0 and 360 degrees inclusive**

ANSWER _____

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21 **The equation sin x = 0 has a solution at x = 180 degrees in the range 0 to 360 degrees**

A yes

B no

C only for acute angles

D never

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22 **The equation sin x = 0 has a solution at x = 270 degrees in the range 0 to 360 degrees**

A yes

B no

C only for acute angles

D never

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**23** **The equation sin x = 0 has a solution at x = 360 degrees in the range 0 to 360 degrees**

- A no
- B only for acute angles
- C yes
- D never

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**24** **The equation sin x = 0 has solutions at x = 0 and x = 180 degrees in the range 0 to 360 degrees. Another solution in that range is at x = , in degrees,**

ANSWER _____

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**25** **The equation sin x = 0 has this many solutions between 0 and 360 degrees inclusive**

ANSWER _____

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# ANSWER KEY

1. 0
2. 30
3. 45
4. 1
5. 0.64
6. 150
7. 1
8. 1
9. 1
10. A
11. 1
12. 0.75
13. 0.577
14. 1
15. 1.732
16. B
17. 30
18. 90
19. 1
20. 2
21. A
22. B
23. C
24. 360
25. 3

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