

ARCTAN FORMULA

The opposite or the inverse of the tangent function in geometry is known as the arctangent formula. Mathematically described as $\arctan(x)$ or $\tan^{-1}(x)$, the arctan formula has a range from $-\pi/2$ to $\pi/2$. The domain of this inverse function of the tangent formula is $-\infty < x < \infty$. The arctan formula finds various uses in an array of fields seen in everyday life like finding out angles in the field of trigonometry

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Q1: If $\arctan(x) = \pi/4$, what is the tangent value of x ?

- A: 1
 - B: $\sqrt{2}$
 - C: 2
 - D: 0.5
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Q2: What is the range of values for the arctan function?

- A: $[0, \pi)$
 - B: $(-\pi/2, \pi/2)$
 - C: $(0, \pi/2)$
 - D: $(-\infty, \infty)$
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Q3: If $\arctan(\sqrt{3}) = \alpha$, what is $\arctan(1/\sqrt{3})$ equal to?

- A: α
 - B: $\alpha - \pi/2$
 - C: $1/\alpha$
 - D: $\pi/2 - \alpha$
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Q4: The inverse of the sine function is known as?

- A: Arcsine function
 - B: Arccosine function
 - C: Arctan function
 - D: Arccot function
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Q5: The inverse of the cosine function is known as?

- A: Arcsine function
 - B: Arccosine function
 - C: Arctan function
 - D: Arccot function
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Q6: The inverse of the tangent function is known as?

- A: Arcsine function
 - B: Arccosine function
 - C: Arctan function
 - D: Arccot function
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Q7: The arctan function is used in:

- A: Computer graphics
 - B: Artificial Intelligence
 - C: Engineering and Physics
 - D: All of the above
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Q8: What is not an inverse trigonometric function?

- A: Arctan function
 - B: Arcsine function
 - C: Arccosine function
 - D: Sine function
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Q9: The domain of the arctan function is:

- A: $\infty < x < \infty$
 - B: $-\infty < x < \pi$
 - C: $-\infty < x < \infty$
 - D: $-\pi < x < \infty$
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Q10: The arctan function is represented as:

- A: $\tan^{-1}(x)$
 - B: $\tan^{-1}(x)$
 - C: $\tan^1(x)$
 - D: $\tan^{-2}(x)$
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Answers

Q1: A - 1

Q2: B - $(-\pi/2, \pi/2)$

Q3: B - $\alpha - \pi/2$

Q4: A - Arcsine function

Q5: B - Arccosine function

Q6: C - Arctan function

Q7: D - All of the above

Q8: D - Sine function

Q9: C - $-\infty < x < \infty$

Q10: B - $\tan^{-1}(x)$