

A2.A.64: Using Inverse Trigonometric Functions 4: Use inverse functions to find the measure of an angle, given its sine, cosine, or tangent

1 The value of $\sin(\text{Arc cos } 1)$ is

8 The value of $\cos\left(\text{Arc tan } \sqrt{3}\right)$ is

2 The value of $\tan(\text{Arc sin } 1)$ is

9 What is the value of $\tan\left(\text{Arc cos } -\frac{3}{5}\right)$?

3 If $\theta = \text{Arc cos } \frac{\sqrt{2}}{2}$, what is the value of $\tan \theta$?

10 What is the value of y if $y = \sin\left(\text{Arctan } \frac{5}{12}\right)$?

4 If $f(x) = \sin(\text{Arc tan } x)$, the value of $f(1)$ is

11 What is the value of $\tan\left(\text{Arc cos } \frac{5}{13}\right)$?

5 The value of $\cos\left(\text{Arc sin } \frac{\sqrt{3}}{2}\right)$ is

12 What is the value of $\tan\left(\text{Arc cos } \frac{15}{17}\right)$?

6 If $y = \sin\left(\text{Arc cos } \frac{1}{2}\right)$, the value of y is

13 If $\sin^{-1}\left(\frac{5}{8}\right) = A$, then

1) $\sin A = \frac{5}{8}$

2) $\sin A = \frac{8}{5}$

3) $\cos A = \frac{5}{8}$

4) $\cos A = \frac{8}{5}$

7 What is the exact value of $\cos\left(\text{Arc sin } \frac{1}{2}\right)$?

14 If $\tan\left(\text{Arc cos } \frac{\sqrt{3}}{k}\right) = \frac{\sqrt{3}}{3}$, then k is

15 What is a value of $\cos\left(\text{Arc tan } \frac{2}{3}\right)$?

16 If $\cos \theta = -\frac{5}{13}$ and $\sin \theta > 0$, then $\tan \theta$ is

17 If $\tan x = -\frac{2}{3}$ and angle x lies in the second quadrant, what is the value of $\cos x$?

18 If x is a positive acute angle and $\cos x = \frac{\sqrt{3}}{4}$, what is the exact value of $\sin x$?

19 If $\cos \theta = -\frac{3}{4}$ and $\tan \theta$ is negative, the value of $\sin \theta$ is

20 If $\sin \theta = \frac{\sqrt{7}}{4}$ and $\cos \theta = -\frac{3}{4}$, what is $\tan \theta$?

21 If $\cos x = -\frac{4}{5}$ and $\tan x > 0$, the value of $\sin x$ is?

22 If $\cos \theta = -\frac{4}{5}$ and θ lies in Quadrant II, what is the value of $\tan \theta$?

23 If $\sin A = -\frac{7}{25}$ and $\angle A$ terminates in Quadrant IV, $\tan A$ equals

24 If $\cos A = \frac{4}{5}$ and A is in Quadrant I, what is the value of $\sin A \cdot \tan A$?

25 If $\sin \theta = -\frac{3}{5}$ and $\cos \theta > 0$, what is the value of $\tan \theta$?

26 If θ is a positive acute angle and $\sin \theta = a$, which expression represents $\cos \theta$ in terms of a ?

27 What is the value of $\sin\left(\text{Arc cos } \frac{1}{x}\right)$?

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Answer Section

1 ANS:
0

REF: 019921siii

2 ANS:
undefined

REF: 010221siii

3 ANS:
1

REF: 068427siii

4 ANS:
 $\frac{\sqrt{2}}{2}$

REF: 060023siii

5 ANS:
 $\frac{1}{2}$

REF: 069916siii

6 ANS:
 $\frac{\sqrt{3}}{2}$

REF: 088618siii

7 ANS:
 $\frac{\sqrt{3}}{2}$

REF: 061008b

8 ANS:
 $\frac{1}{2}$

REF: 089320siii

9 ANS:
 $-\frac{4}{3}$

REF: 080123siii

10 ANS:

$$\frac{5}{13}$$

REF: 089817siii

11 ANS:

$$\frac{12}{5}$$

REF: 060322siii

12 ANS:

$$\frac{8}{15}$$

$$\text{If } \sin \theta = \frac{15}{17}, \text{ then } \cos \theta = \frac{8}{17}. \quad \tan \theta = \frac{\frac{8}{17}}{\frac{15}{17}} = \frac{8}{15}$$

REF: 081508a2

13 ANS: 1

REF: 011112a2

14 ANS:

$$2$$

$$\tan 30 = \frac{\sqrt{3}}{3}. \quad \text{Arc cos } \frac{\sqrt{3}}{k} = 30$$

$$\frac{\sqrt{3}}{k} = \cos 30$$

$$k = 2$$

REF: 061323a2

15 ANS:

$$\frac{3\sqrt{13}}{13}$$

REF: 060225siii

16 ANS:

$$-\frac{12}{5}$$

REF: 068417siii

17 ANS:

$$-\frac{3\sqrt{13}}{13}$$

REF: 068632siii

18 ANS:

$$\frac{\sqrt{13}}{4}$$

REF: 080604b

19 ANS:

$$\frac{\sqrt{7}}{4}$$

REF: 019431siii

20 ANS:

$$-\frac{\sqrt{7}}{3}$$

REF: 010321siii

21 ANS:

$$-\frac{3}{5}$$

REF: 018628siii

22 ANS:

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

If $\cos \theta = -\frac{4}{5}$ and θ lies in Quadrant II, then $\sin \theta = \frac{3}{5}$. $\tan \theta = \frac{\sin \theta}{\cos \theta} = \frac{\frac{3}{5}}{-\frac{4}{5}} = -\frac{3}{4}$

REF: 061004b

23 ANS:

$$-\frac{7}{24}$$

If $\sin A = -\frac{7}{25}$, $\cos A = \frac{24}{25}$, and $\tan A = \frac{\sin A}{\cos A} = \frac{-\frac{7}{25}}{\frac{24}{25}} = -\frac{7}{24}$

REF: 011413a2

24 ANS:

$$\frac{9}{20}$$

REF: 069421siii

25 ANS:

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

REF: 010021siii

26 ANS:

$$\sqrt{1-a^2}$$

$$\cos^2 \theta + \sin^2 \theta = 1$$

$$\cos^2 \theta = 1 - \sin^2 \theta$$

$$\sqrt{\cos^2 \theta} = \sqrt{1 - \sin^2 \theta}$$

$$\cos \theta = \sqrt{1 - a^2}$$

REF: 060418b

27 ANS:

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

REF: 010029siii