F.TF.B.7: Using Inverse Trigonometric Functions 1

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

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

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

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

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

2 If $x = \text{Arc}\cos\left(-\dfrac{1}{2}\right)$, then x is equal to

1) $120°$
2) $150°$
3) $210°$
4) $300°$

3 What is the principal value of $\cos^{-1}\left(-\dfrac{\sqrt{3}}{2}\right)$?

1) $-30°$
2) $60°$
3) $150°$
4) $240°$

4 What is a value of $\text{Arc}\sin\left(-\dfrac{\sqrt{2}}{2}\right)$?

1) $\dfrac{\pi}{4}$

2) $-\dfrac{\pi}{4}$

3) $\dfrac{\pi}{2}$

4) $-\dfrac{\pi}{2}$

5 If $\sin x = -\dfrac{\sqrt{2}}{2}$ and $\cos x = \dfrac{\sqrt{2}}{2}$, the measure of angle x is

1) $45°$
2) $135°$
3) $225°$
4) $315°$

6 What is the value of x in the equation $x = 2\text{Arc}\sin\dfrac{1}{2}$?

1) $\dfrac{\pi}{6}$

2) $\dfrac{\pi}{2}$

3) $\dfrac{\pi}{3}$

4) $\dfrac{\pi}{4}$

7 The value of $2(\text{Arc} \sin 1)$ is
1) 0
2) $\frac{1}{2}$
3) π
4) $\frac{\pi}{2}$

8 The value of $\text{Arc} \sin\left(\frac{1}{2}\right) + \text{Arc} \tan(1)$ is

1) 120°
2) 105°
3) 90°
4) 75°

9 The ratio $\dfrac{\text{Arc} \cos \dfrac{1}{2}}{\text{Arc} \tan 1}$ is equal to

1) $\frac{3}{4}$

2) $\frac{3\pi}{4}$

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

4) $\frac{4\pi}{3}$

10 If $\theta = \text{Arc} \cos\left(\dfrac{\sqrt{3}}{2}\right)$, what is the measure of angle θ?

11 What is the smallest positive value of x that satisfies $x = \text{Arc} \cos \frac{1}{2}$?

12 Find the value of $\text{Arc} \sin\left(\dfrac{1}{2}\right) + \text{Arc} \cos\left(\dfrac{\sqrt{2}}{2}\right)$.

13 Find the value of $\text{Arc} \tan \sqrt{3}$.

14 If $\cos A = 0.3942$, what is the value of angle A to the *nearest minute*?
1) 23°12′
2) 23°13′
3) 66°47′
4) 67°48′

15 If $\sin x = 0.0935$, find the value of positive acute angle x to the *nearest minute*.

16 If $\sin \theta = 0.5035$, find the value of positive acute angle θ to the *nearest minute*.

17 If $\sin \theta = 0.3347$, find the measure of positive acute angle θ to the *nearest minute*.

18 If $\tan A = 0.4750$, find the value of A to the *nearest minute*.

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Answer Section

1 ANS: 1   REF: 011112a2
2 ANS: 1   REF: 089528siii
3 ANS: 3   REF: 081007a2
4 ANS: 2   REF: 010911b
5 ANS: 4   REF: 089932siii
6 ANS: 3   REF: 080224siii
7 ANS: 3   REF: 018626siii
8 ANS: 4   REF: 019021siii
9 ANS: 3

$$\frac{\operatorname{Arc\,cos}\frac{1}{2}}{\operatorname{Arc\,tan}1} = \frac{60°}{45°} = \frac{4}{3}$$

REF: 011708a2

10 ANS:
30

REF: 068010siii

11 ANS:
60º

REF: 068903siii

12 ANS:
75°

REF: 088908siii

13 ANS:
60º

REF: 018713siii

14 ANS: 3   REF: 068722siii

15 ANS:
5°22′

REF: 088413siii

16 ANS:
30°14′

REF: 018613siii

17 ANS:
19°33′

REF: 018914siii

18   ANS:
  25°24′

  REF: 068011siii