F.TF.A.2: Determining Trigonometric Functions 2

1 At $x = \frac{\pi}{2}$, the difference $2\sin x - \cos 2x$ is

  1) 1 2) 2 3) 3 4) 0

2 The value of $\cos^2\left(\frac{\pi}{4}\right)$ is

  1) 1 2) $\frac{1}{2}$ 3) $\frac{1}{4}$ 4) 0

3 If $f(x) = \sin^2 x$, then $f\left(\frac{\pi}{2}\right)$ equals

  1) 1 2) $\frac{3}{4}$ 3) $\frac{1}{2}$ 4) $\frac{1}{4}$

4 If $f(x) = \sin x + \cos 2x$, then $f(\pi)$ is
  1) 1 2) 2 3) 0 4) -1

5 The value of $\sin\frac{\pi}{3}\cos\pi$ is

  1) $-\frac{\sqrt{3}}{2}$ 2) $\frac{1}{2}$ 3) $-\frac{1}{2}$ 4) 0

6 If $f(x) = \sin\frac{x}{4}$, then $f(\pi)$ equals

  1) 1 2) $\frac{1}{2}\sqrt{3}$ 3) $\frac{1}{2}\sqrt{2}$ 4) $\frac{1}{2}$

7 The value of $\cos\frac{\pi}{3} - \sin\frac{3\pi}{2}$ is

  1) $1\frac{1}{2}$ 2) $\frac{1}{2}$ 3) $-\frac{1}{2}$ 4) $-1\frac{1}{2}$

8 If $f(x) = \cos 3x + \sin x$, then $f\left(\frac{\pi}{2}\right)$ equals

  1) 1 2) 2 3) -1 4) 0

9 The value of $\sin\left(\frac{3\pi}{2}\right) - \cos\left(\frac{\pi}{3}\right)$ is

  1) $-1\frac{1}{2}$ 2) $1\frac{1}{2}$ 3) $\frac{1}{2}$ 4) $-\frac{1}{2}$

10 The numerical value of $\sin\frac{3\pi}{2} + \cos\frac{\pi}{4}$ is

  1) $1+\frac{\sqrt{2}}{2}$ 2) $\frac{\sqrt{2}}{2}$ 3) $-1+\frac{\sqrt{2}}{2}$ 4) -1

11 If $f(x) = \sin 2x + \cos x$, what is $f\left(\frac{\pi}{4}\right)$?

  1) $1+\frac{\sqrt{2}}{2}$ 2) $\frac{1+\sqrt{3}}{2}$ 3) $\sqrt{2}$ 4) 0

12 The value of $\sin\frac{7\pi}{6}$ is

  1) $\frac{1}{2}$ 2) $-\frac{1}{2}$ 3) $\frac{\sqrt{3}}{2}$ 4) $-\frac{\sqrt{3}}{2}$

13 If $f(x) = 4\cos 3x$, what is the value of $f\left(\frac{\pi}{4}\right)$?

  1) $-\sqrt{2}$ 2) $-2\sqrt{2}$ 3) 135 4) 4

14 The value of $\sin\frac{3\pi}{2} + \cos\frac{2\pi}{3}$ is

  1) $\frac{1}{2}$ 2) $1\frac{1}{2}$ 3) $-1\frac{1}{2}$ 4) $-\frac{1}{2}$

15 The value of $\sin\frac{4\pi}{3}$ is

  1) $\frac{1}{2}$ 2) $-\frac{1}{2}$ 3) $\frac{\sqrt{3}}{2}$ 4) $-\frac{\sqrt{3}}{2}$

16 If $f(x) = \cos x + \tan\frac{x}{3}$, then $f(\pi)$ is

  1) $\frac{\sqrt{3}+3}{3}$ 2) $\frac{\sqrt{3}-3}{3}$ 3) $\sqrt{3}+1$
  4) $\sqrt{3}-1$

17 The value of $\sin\frac{\pi}{6} + \tan\frac{\pi}{4}$ is

  1) $\frac{3}{2}$ 2) $\frac{\sqrt{3}+2}{2}$ 3) $\frac{1+\sqrt{2}}{2}$ 4) $\frac{\sqrt{3}+\sqrt{2}}{2}$

18 Which expression, when rounded to three decimal places, is equal to -1.155?

  1) $\sec\left(\frac{5\pi}{6}\right)$ 2) $\tan(49°20')$ 3) $\sin\left(-\frac{3\pi}{5}\right)$
  4) $\csc(-118°)$

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Answer Section

1	ANS: 3	REF:	068437siii
2	ANS: 2	REF:	088426siii
3	ANS: 1	REF:	089322siii
4	ANS: 1	REF:	068924siii
5	ANS: 1	REF:	088935siii
6	ANS: 3	REF:	019420siii
7	ANS: 1	REF:	069531siii
8	ANS: 1	REF:	069718siii
9	ANS: 1	REF:	089722siii
10	ANS: 3	REF:	010017siii
11	ANS: 1	REF:	080317siii
12	ANS: 2	REF:	018732siii
13	ANS: 2	REF:	089626siii
14	ANS: 3	REF:	069819siii
15	ANS: 4	REF:	060120siii
16	ANS: 4	REF:	068129siii
17	ANS: 1	REF:	068528siii
18	ANS: 1	REF:	011203a2