

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

- 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)  $\tan(49^\circ 20')$  3)  $\sin\left(-\frac{3\pi}{5}\right)$   
4)  $\csc(-118^\circ)$

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