Worksheet for 2.3

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Use the fact that the trigonometric functions are periodic to find the exact value of the expression. Do not use a calculator.

1) $\sin 495°$ 1) _____

A) $\dfrac{\sqrt{2}}{2}$ B) $-\dfrac{1}{2}$ C) $\dfrac{1}{2}$ D) $-\dfrac{\sqrt{2}}{2}$

2) $\cos \dfrac{20\pi}{3}$ 2) _____

A) $-\dfrac{\sqrt{3}}{2}$ B) $-\dfrac{1}{2}$ C) $\dfrac{1}{2}$ D) $\dfrac{\sqrt{3}}{2}$

Solve the problem.

3) If $f(\theta) = \sin \theta$ and $f(a) = \dfrac{1}{6}$, find the exact value of $f(a) + f(a + 2\pi) + f(a + 4\pi)$.   3) _____

A) $\dfrac{1}{2}$ B) $\dfrac{1}{6}$ C) $\dfrac{5}{2}$ D) $\dfrac{1}{2} + 6\pi$

Name the quadrant in which the angle θ lies.

4) $\cot \theta < 0, \quad \cos \theta > 0$ 4) _____

A) I   B) II   C) III   D) IV

In the problem, $\sin \theta$ and $\cos \theta$ are given. Find the exact value of the indicated trigonometric function.

5) $\sin \theta = \dfrac{2\sqrt{2}}{3}$, $\cos \theta = \dfrac{1}{3}$ Find $\cot \theta$.   5) _____

Find the exact value of the indicated trigonometric function of θ. SHOW WORK.

6) $\tan \theta = -\dfrac{8}{3}$, θ in quadrant II   Find $\cos \theta$.   6) _____

7) $\cot \theta = -\dfrac{3}{2}$, $\cos \theta < 0$ Find $\csc \theta$.   7) _____

Use the even-odd properties to find the exact value of the expression. Do not use a calculator.

8) $\sin\left(-\dfrac{\pi}{2}\right)$ 8) _____

Solve the problem.

9) If $f(\theta) = \tan \theta$ and $f(a) = 4$, find the exact value of $f(-a)$. SHOW YOUR WORK.   9) _____

A) $\dfrac{1}{4}$ B) 4 C) $-\dfrac{1}{4}$ D) -4