MAC1114 Trigonometry 6.2 Sum and Difference Formulas Practice 10

Write the expression as the cosine of an angle, knowing that the expression is the right side of the formula for $\cos(\alpha - \beta)$ with particular values for α and β.

1) $\cos(160°)\cos(40°) + \sin(160°)\sin(40°)$ 1) _____

A) $\cos(210°)$ B) $\cos(120°)$ C) $\cos(220°)$ D) $\cos(190°)$

Complete the identity.

2) $\cos\left(x - \frac{11\pi}{6}\right) = ?$ 2) _____

A) $\frac{1}{2}(\sqrt{3}\cos x - \sin x)$ B) $-\frac{\sqrt{3}}{2}(\cos x - \sin x)$

C) $-\frac{\sqrt{3}}{2}(\cos x + \sin x)$ D) $\frac{\sqrt{3}}{2}(\cos x - \sin x)$

Find the exact value by using a sum or difference identity.

3) $\cos(30° + 45°)$ 3) _____

A) $\frac{\sqrt{2}(\sqrt{3} - 1)}{4}$ B) $-\frac{\sqrt{2}(\sqrt{3} - 1)}{4}$ C) $-\frac{\sqrt{2}(\sqrt{3} + 1)}{4}$ D) $\frac{\sqrt{2}(\sqrt{3} + 1)}{4}$

4) $\sin 255°$ 4) _____

A) $\frac{\sqrt{2}(\sqrt{3} + 1)}{4}$ B) $-\frac{\sqrt{2}(\sqrt{3} + 1)}{4}$ C) $\frac{\sqrt{2}(\sqrt{3} - 1)}{4}$ D) $-\frac{\sqrt{2}(\sqrt{3} - 1)}{4}$

Find the exact value of the expression.

5) $\sin 260° \cos 20° - \cos 260° \sin 20°$ 5) _____

A) $-\frac{\sqrt{3}}{2}$ B) $\frac{\sqrt{3}}{2}$ C) $-\frac{1}{2}$ D) $\frac{13}{3}$

Complete the identity.

6) $\frac{\sin(\alpha + \beta)}{\cos\alpha \cos\beta} = ?$ 6) _____

A) $\tan\beta + \tan\alpha$ B) $-\tan\alpha + \cot\beta$ C) $\tan\alpha + \tan\beta$ D) $\cot\alpha + \cot\beta$

Use the given information to find the exact value of the expression.

7) $\sin\alpha = \frac{8}{17}$, α lies in quadrant II, and $\cos\beta = \frac{12}{13}$, β lies in quadrant I Find $\sin(\alpha - \beta)$. 7) _____

A) $\frac{140}{221}$ B) $\frac{21}{221}$ C) $\frac{220}{221}$ D) $\frac{171}{221}$

Use trigonometric identities to find the exact value.

8) $\frac{\tan 25° + \tan 5°}{1 - \tan 25° \tan 5°}$

Complete the identity.

9) $\tan\left(x + \frac{\pi}{4}\right) = ?$

Answer Key
Testname: PRACTICE10

1) B
2) A
3) A
4) B
5) A
6) C
7) D
8) $\frac{\sqrt{3}}{3}$
9) $\frac{\cos x + \sin x}{\cos x - \sin x}$