

A2.A.76: Angle Sum and Difference Identities 6: Apply the angle sum and difference formulas for trigonometric functions

- 1 The expression $\cos(\pi - x)$ is equivalent to

- 2 The expression $\cos(90^\circ + \theta)$ is equivalent to

- 3 The expression $\sin(\theta + 90)^\circ$ is equivalent to

- 4 The expression $\sin(90^\circ - \theta)$ is equivalent to

- 5 The expression $\sin(180^\circ - x)$ is equivalent to

- 6 The expression $\cos(270^\circ - A)$ is equivalent to

- 7 The value of $\sin(180^\circ + x)$ is equivalent to

- 8 The expression $\tan(180^\circ - y)$ is equivalent to

- 9 The expression $\tan(180^\circ + x)$ is equivalent to

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Answer Section

1 ANS:

$$-\cos x$$

$$\cos(\pi - x) = \cos \pi \cos x + \sin \pi \sin x = (-1)\cos x + 0 \sin x = -\cos x$$

REF: 010818b

2 ANS:

$$-\sin \theta$$

REF: 068127siii

3 ANS:

$$\cos \theta$$

$$\sin(\theta + 90) = \sin \theta \cdot \cos 90 + \cos \theta \cdot \sin 90 = \sin \theta \cdot (0) + \cos \theta \cdot (1) = \cos \theta$$

REF: 061309a2

4 ANS:

$$\cos \theta$$

REF: 068630siii

5 ANS:

$$\sin x$$

REF: 019635siii

6 ANS:

$$-\sin A$$

REF: 060033siii

7 ANS:

$$-\sin x$$

$$\sin(180^\circ + x) = (\sin 180)(\cos x) + (\cos 180)(\sin x) = 0 + (-\sin x) = -\sin x$$

REF: 011318a2

8 ANS:

$$-\tan y$$

REF: 069033siii

9 ANS:

$$\tan x$$

REF: 089530siii