*A2.A.76: Apply the angle sum and difference
formulas for trigonometric functions*

1. 080126b, P.I. A2.A.76

   If $\sin x = \dfrac{4}{5}$, where $0° < x < 90°$, find the

   value of $\cos (x + 180°)$.

2. 080409b, P.I. A2.A.76

   If $\sin A = \dfrac{4}{5}$, $\tan B = \dfrac{5}{12}$, and angles A and B

   are in Quadrant I, what is the value of
   $\sin(A + B)$?

   [A] $-\dfrac{33}{65}$ [B] $\dfrac{33}{65}$ [C] $\dfrac{63}{65}$ [D] $-\dfrac{63}{65}$

3. 060312b, P.I. A2.A.76

   If A and B are positive acute angles,

   $\sin A = \dfrac{5}{13}$, and $\cos B = \dfrac{4}{5}$, what is the value

   of $\sin(A + B)$?

   [A] $\dfrac{33}{65}$ [B] $-\dfrac{16}{65}$ [C] $\dfrac{63}{65}$ [D] $\dfrac{56}{65}$

4. 080316b, P.I. A2.A.76

   If $\sin x = \dfrac{12}{13}$, $\cos y = \dfrac{3}{5}$, and x and y are acute

   angles, the value of $\cos(x - y)$ is

   [A] $\dfrac{21}{65}$ [B] $\dfrac{63}{65}$ [C] $-\dfrac{14}{65}$ [D] $-\dfrac{33}{65}$

5. 010401b, P.I. A2.A.76

   The expression $\cos 40° \cos 10° + \sin 40° \sin 10°$
   is equivalent to

   [A] $\sin 30°$ [B] $\cos 50°$

   [C] $\sin 50°$ [D] $\cos 30°$

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[2] $-\dfrac{3}{5}$, and appropriate work is shown, such

as $\cos(x + 180) = \cos x \cos 180° - \sin x \sin$

$180° = \dfrac{3}{5}(-1) - \dfrac{4}{5}(0)$.

or [2] $-\dfrac{3}{5}$, and appropriate work is shown,

such as $\cos(x + 180) = \text{-}\cos x$.

or [2] $-\dfrac{3}{5}$, and angle x is found, and correct

substitution leads to $\cos(x + 180)$.
[1] Appropriate work is shown, but one
computational error is made.

or [1] $\cos x = \dfrac{4}{5}$ is found, but substitution

errors are made.

or [1] $-\dfrac{3}{5}$, but no work is shown.

[0] A zero response is completely incorrect,
irrelevant, or incoherent or is a correct
response that was obtained by an obviously

[1] incorrect procedure. _____

[2] C_____

[3] D_____

[4] B_____

[5] D_____