

# Formulas - Sum and Difference Using Cosine and Sine 1

Simplify using the sum or difference formula. Circle the solution and fill in the letter at the bottom of the page to find out what you have if you have 8 apples in one hand and 5 apples in another.

1.  $\cos(\frac{3\pi}{2} - x)$     $-\cos x$     $-\sin x$

T

A

$$\cos \frac{3\pi}{2} \cos x + \sin \frac{3\pi}{2} \sin x$$

$$0 - \sin x$$

2.  $\cos(2\pi + x)$     $\cos x$     $\sin x$

D

N

$$\cos 2\pi \cos x - \sin 2\pi \sin x$$

1

0

3.  $\cos(90^\circ - x)$     $\cos x$     $\sin x$

H

I

(cofunction!)

$$\cos 90 \cos x + \sin 90 \sin x$$

0

1

4.  $\sin(x + 360^\circ)$     $\cos x$     $\sin x$

N

S

5.  $\sin(x - 180^\circ)$     $-\cos x$     $-\sin x$

I

G

$$\sin x \cos 180 - \cos x \sin 180$$

-1

0

6.  $\sin(x - \frac{3\pi}{2})$     $\cos x$     $\sin x$

B

T

$$\sin x \cos \frac{3\pi}{2} - \cos x \sin \frac{3\pi}{2}$$

0

-1

7.  $\sin(x - 90^\circ)$     $-\cos x$     $\sin x$

N

E

$$\sin x \cos 90 - \cos x \sin 90$$

0

1

8.  $\cos(180^\circ + x)$     $-\cos x$     $\sin x$

H

R

$$\cos 180 \cos x - \sin 180 \sin x$$

-1

0

B

1

G

H

A

N

D

S

6

3

5

8

1

7

2

4