Differentiating trigonometric functions is a key part of GPS navigation.

The two forms of notation for the derivative are given on the formula sheet.

The derivative of A sin a x is a cos a x and the derivative of a cos a x is negative a sin a x.

Differentiate f of x equals two cos x plus two thirds sin x.

If f of x equals cos x is differentiated, it becomes negative sin x. so two cos x becomes negative two sin x.

If f of x equals sin x is differentiated, it becomes cos x.

So, two thirds sin x becomes two thirds cos x.

Fully differentiated, f dash x becomes negative two sin x plus two thirds cos x.

Use the formula sheet to help you and differentiate each part of the expression separately.