Common Calculus Mistakes
Sum Rule: Constants

The Goal

Find

$$\frac{d}{dt}(1-\cos t)$$

The Mistake

Find the mistake:

$$\frac{d}{dt}(1-\cos t) = 1+\sin t$$

Need a hint? Look carefully at the red part:

$$\frac{d}{dt}(1-\cos t) = 1+\sin t$$

The Correction

$$\frac{d}{dt}(1-\cos t) = 0+\sin t = \sin t$$

An Explanation

The derivative of 1 (with respect to t) is 0, not 1.

(The student may have hurried past the derivative of 1 to do the derivative of cos(t); take care with *all* parts of a problem.)