

The Net force on the Sojourner as it traveled across the Martian surface at CONSTANT velocity is zero because in accordance with Newton's 2nd Law of motion - which says that  $\sum F's = ma$  - when velocity is constant (or zero) the  $a = 0$  therefore the  $\sum F's = 0 = \text{the Net Force.}$

The Net force acting on the Sojourner as it moves across the Martian landscape is ZERO.

This is because it is moving at CONSTANT velocity. In accordance with Newton's Second Law of Motion the Sum of all forces acting on an object (a.k.a. the Net Force) = Mass  $\times$  the acceleration of the object. Therefore if the velocity of the object is CONSTANT the acceleration of the object is zero, which in turn causes  $m \times a$  to be zero and thus the Net Force to be zero.