

NEWTON'S LAWS

Newton's First Law (N1L)

An object will remain in a state of rest or uniform motion in a straight line unless a Force acts on it to change that state.

Newton's Second Law (N2L)

A force of 1 Newton is the force required to move an object of 1kg at an acceleration of 1m/s^2 .

Or

A force of F Newtons is the force required to move an object of m kgs at an acceleration of a m/s^2 .

$$F = ma$$



F=ma examples

1. What force is required, to accelerate a formula 1 car weighing 642kg at 13m/s^2 ?

2. A force of 6000N is applied to a formula 1 car.

Weight 642Kg

What is the acceleration?

and what distance will it travel in 5s from a standing start?

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F=ma examples

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$$F = ma$$

$$F = 642 \times 13$$

$$F = 8346\text{N}$$

2. A force of 6000N is applied to a formula 1 car.

Weight 642Kg

What is the acceleration?

and what distance will it travel in 5s from a standing start?

$$F = ma$$

$$6000 = 642 \times a$$

$$\underline{\underline{a = 9.35 \text{ m/s}^2}}$$

