

1.

$$I_{sp} = \frac{v_e}{g}$$

	value	units	link	description
I_{sp}	= -	s		specific_impulse (dimensionless)
v_e	= -	m/s		average exhaust speed along the axis of the engine (dimensionless)
g	= -	m/s ²		standard acceleration due to gravity(for an object in a vacuum near the surface of the Earth : 9.80665 m/s ²) (dimensionless)

2.

$$\Delta v = v_e \cdot \ln \left(\frac{m_0}{m_1} \right)$$

	value	units	link	description
Δv	= 18603.4017551	m/sec		Maximum change of velocity (dimensionless)
v_e	= 8830	m/sec		Effective exhaust velocity (dimensionless)
m_0	= 74000	kg		Initial total mass (including propellant) - "wet mass" (dimensionless)
m_1	= 9000	kg		Final total mass - "dry mass" (dimensionless)

3.

$$I_{spm} = \frac{F}{\dot{m} \cdot g_0}$$

	value	units	link	description
I_{spm}	= -	s		specific impulse by weight (dimensionless)
F	= -	N		thrust (dimensionless)
\dot{m}	= -	kg/s		fuel mass rate (dimensionless)
g_0	= -	m/s ²		standard acceleration due to gravity(for an object in a vacuum near the surface of the Earth : 9.80665 m/s ²) (dimensionless)