What would be the speed of a satellite that orbits 500 km above the earth?

$$a_C = \frac{v^2}{r} \qquad \Sigma F_C = ma_C = \frac{mv^2}{r} \qquad v = \frac{2\pi r}{T} \qquad F_G = \frac{Gm_1m_2}{r^2}$$

$$G = 6.67 \times 10^{-11}\,\mathrm{Nm^2/kg^2}$$

$$\Sigma F = ma \qquad F_G = mg \qquad F_f = \mu F_N$$

Earth:	Mass	$5.98 \times 10^{24}\,\mathrm{kg}$
	Radius (mean)	$6.38 \times 10^{3}\,\mathrm{km}$
Moon:	Mass	$7.35 \times 10^{22}\,\mathrm{kg}$
	Radius (mean)	$1.74 \times 10^{3}\,\mathrm{km}$
Sun:	Mass	$1.99 \times 10^{30}\,\mathrm{kg}$
	Radius (mean)	$6.96 \times 10^{5}\,\mathrm{km}$
Earth-Sun Distance (mean)		$1.496 \times 10^{8}\,\mathrm{km}$
Earth-Moon Distance (mean)		$3.84 \times 10^{5}\,\mathrm{km}$

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