

Why is it so hard to go to space?

$$-9.81 \text{ m s}^{-2}$$

Today's learning objective:

By the end of class, I will be able to see the calculus and physics linkage to space travel.

Today's language objective:



5,015 m/s

Escape velocity

$$V_e = \sqrt{\frac{2GM}{r}}$$

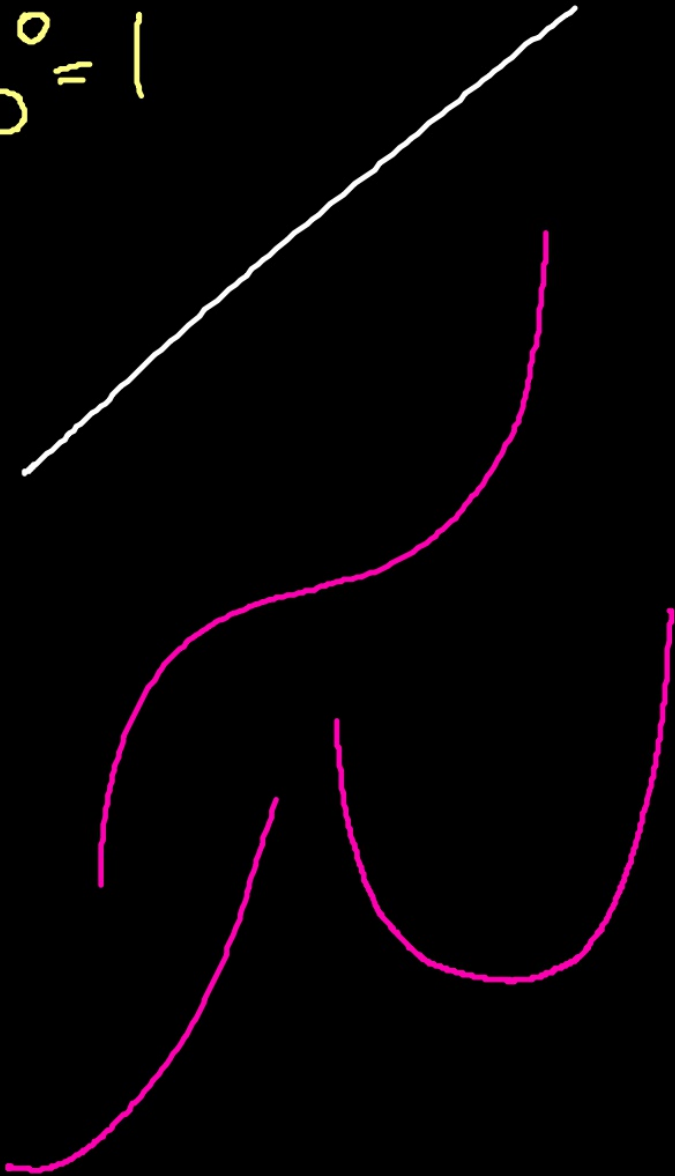
MARS

$$G = 6.67 \times 10^{-11} \text{ N}$$

$$M = 6.39 \times 10^{23} \text{ kg}$$

$$r = 3.39 \times 10^6 \text{ m}$$

$$b^0 = 1$$



Regression Line

- line of best fit

STAT → CALC → Lin Reg (ax+b)

$$y = 16.21x - 432$$

$r =$ correlation coefficient $= .935$

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$$ab^x$$
$$a = 46.4$$
$$b = 1.03$$

$$r = .988$$

10 - 10

x $0 \rightarrow 200$

y $0 \rightarrow 3000$

