Solutions

Each answer shows the steps, then the **result**.

2.1

- the gravitational pull of the planet on the satellite

2.2

- it decreases ($v \propto 1/\sqrt{r}$)

2.3

- $\dfrac{GMm}{r^2} = \dfrac{mv^2}{r}$

3.1 B

3.2 B

3.3

(a)

- $v = \sqrt{\dfrac{GM}{r}}$

(b)

- $v = \sqrt{\dfrac{(6.67 \times 10^{-11})(6.0 \times 10^{24})}{7.0 \times 10^{6}}} = \sqrt{5.7 \times 10^{7}} = 7.6 \times 10^{3}\ \text{m s}^{-1}$