

0.0.1 37. Hausaufgabe**Buch Seite 91, Aufgabe 8**

$$v^2 = 2gh;$$

$$\cos \alpha = \frac{r-h}{r}; \Rightarrow \cos \alpha = 1 - \frac{h}{r}; \Rightarrow h = r(1 - \cos \alpha);$$

$$\cos \alpha \cdot F_G = F_R;$$

$$\cos \alpha \cdot gm = m \frac{v^2}{r};$$

$$\cos \alpha \cdot g = \frac{v^2}{r};$$

$$\cos \alpha \cdot g = \frac{2gh}{r};$$

$$\cos \alpha = \frac{2r(1-\cos \alpha)}{r};$$

$$\cos \alpha = 2 - 2 \cos \alpha;$$

$$\cos \alpha = \frac{2}{3};$$

$$\alpha \approx 48,2^\circ;$$