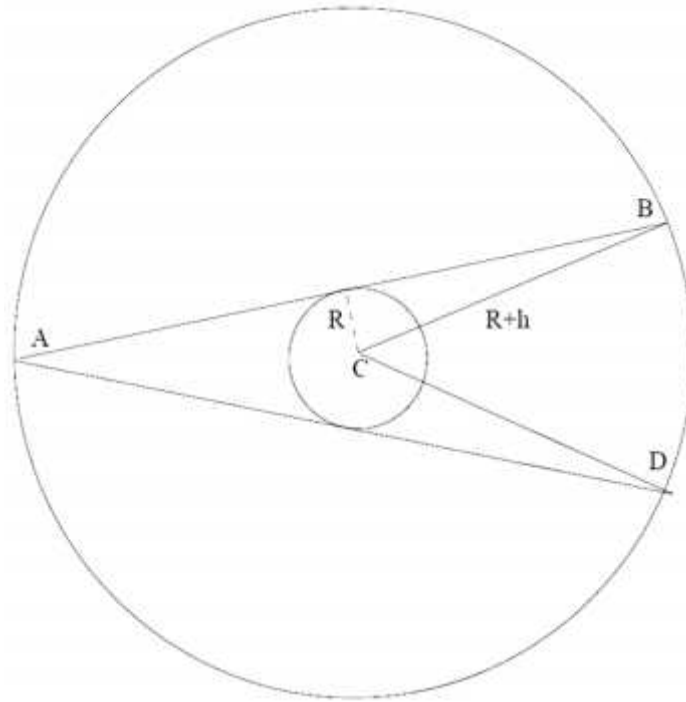


:
11.1.



:

$$\begin{aligned} \angle BCD &= 2 \times \angle BAD \\ &= 2 \times 2 \times \angle ABC \\ &= 4 \sin^{-1} \left(\frac{R}{R+h} \right) \\ &\approx \frac{4 \times 6400}{42000} \\ &\approx \frac{4}{7} \text{ радиан} \end{aligned}$$

,
2/7
,

$$: N \approx f \cdot \frac{7}{2} \approx 11$$

11.2

:

$$G \frac{m \cdot M}{R^2} = G \frac{m \cdot m}{r^2},$$

$m -$, $M -$, $R -$,
 $r -$:

$$r = \frac{m \cdot R}{\sqrt{m \cdot M}} \approx 0,8$$

11.3

$v = HR$, R ,
 : $T = R / v = 1 / H$,

1 $= 3 \cdot 10^{19}$, $H = 10,4 \cdot 10^{-15} \text{ s}^{-1}$, $1 = 3 \cdot 10^{13}$
 $T = 10^{14}$ 3

11.4

$m_1 = -26,74$, F_1 :
 $F_2 = 0,1 F_1$:

$$m_2 - m_1 = - \frac{\log_{10} \frac{F_2}{F_1}}{\log_{10} 2,512}$$

$$m_2 = m_1 - 2,5 \log_{10} \frac{F_2}{F_1}$$

$$m_2 = -26,74 - 2,5 \log_{10} 0,1$$

$$m_2 = -24,24$$

-24,24.

11.5

, $a = g$, $a -$,
 $R -$, $T -$,

$$a = \frac{4f^2 R}{T^2}$$

$$T = 2\pi \sqrt{\frac{R}{g}}$$

$$n = \frac{T_o}{T} = \frac{T_o}{2\pi} \sqrt{\frac{g}{R}}$$

$$T_o = 24 \text{ .}$$

$$T = 5080 \text{ c} = 1 \text{ 25} \quad n = 17.$$

11.6 .

380 .
:

$$= 0,29 \text{ . / } \} \approx 0,29 \text{ . / } 390 \approx 7400 \text{ .}$$

$$E = \dagger T^4 \approx 5.67 \cdot 10^{-8} \cdot (7400)^4 \quad / c \approx 5.67 \cdot 10^{-8} \cdot 0,3 \cdot 10^{16} \quad / c \approx 1,7 \cdot 10^8 \quad / c$$

$$t \approx 365 \cdot 24 \cdot 60 \cdot 60 = 31536000c, \quad ,$$

$$E \approx 31536000c \cdot 1,7 \cdot 10^8 \quad / \approx 5,36 \cdot 10^{15} \approx 5360 \text{ .}$$