

## Mobiele telefoon

$$10. \quad 3,31 + \frac{21}{t-148} = 0 \qquad t = \frac{21}{-3,31} + 148 = 141,656$$

Dus 141 uur en 39 minuten.

$$11. \quad \text{De spanning is dan } 0,94 \cdot 3,2 = 3,008 \text{ Volt}$$

$$\text{Dus } 3,31 + \frac{21}{t-148} = 3,008$$

$$t = \frac{21}{-0,302} + 148 = 78,46$$

$78,46 > \frac{1}{2} \cdot 141,65$  dus de telefoon is niet op de helft van de stand-by-tijd.

$$12. \quad \text{ouderwetse batterijen: } \frac{dV}{dt} = -0,01$$

Batterijen ontladen even snel als:

$$-21 \cdot (t-148)^{-2} = -0,01$$

$$t = 148 - \sqrt{\frac{21}{0,01}} = 102,17$$