

$$39.1 \quad s = 180 \text{ m} \quad t = 30 \text{ s}$$

$$v = \frac{s}{t} = \frac{180}{30} = 6,3 \frac{\text{m}}{\text{s}}$$

$$39.2 \quad v = 110 \frac{\text{km}}{\text{h}} \quad s = 62 \text{ km}$$

$$t = \frac{s}{v} = \frac{62}{110} = 0,56 \text{ h} \\ = 33' 3''$$

$$39.3 \quad v = 50 \frac{\text{km}}{\text{h}} \quad t = 1''$$

$$v = \frac{50}{3,6} = 14 \frac{\text{m}}{\text{s}}$$

$$s = v \cdot t = 14 \cdot 1 = 14 \text{ m}$$

$$3P.4 \quad t = 50' \quad v = 320 \frac{\text{km}}{\text{h}}$$

$$s = v \cdot t = 320 \frac{\text{km}}{\text{h}} \cdot \frac{50}{60} \text{h} = \\ = 265,6 \text{ km}$$

$$3P.6 \quad \phi = 120 \text{ mm} \quad n = 1440 \frac{1}{\text{min}}$$

$$U = d \cdot \pi = 0,12 \cdot \pi = 0,377 \text{ m}$$

$$v = U \cdot n = 0,377 \text{ m} \cdot 1440 \frac{1}{\text{min}} = \\ = 542,88 \frac{\text{m}}{\text{min}} \\ = 9,04 \frac{\text{m}}{\text{s}}$$

$$3P.7 \quad d = 250 \text{ mm} \quad v = 25 \frac{\text{m}}{\text{s}}$$

$$v = d \cdot \pi \cdot n$$

$$n = \frac{v}{d \cdot \pi} = \frac{25 \frac{\text{m}}{\text{s}}}{0,25 \text{ m} \cdot \pi} = 31,84 \frac{1}{\text{s}} \\ = 1910 \frac{1}{\text{min}}$$

$$3P.8 \quad v = 15 \frac{m}{s}$$

$$n = 2840 \frac{1}{min}$$

$$d = \frac{v}{n \cdot \pi} = \frac{15 \frac{m}{s}}{\underbrace{2840 \frac{1}{min} \cdot \frac{1}{60} \cdot \pi}_{\text{pro Sekunde!}}}$$

$$= 0,101 m = 101 mm$$

$$3P.9 \quad d_m = 40 mm$$

$$n = 2880 \frac{1}{min}$$

$$v = d \cdot \pi \cdot n = 0,04 m \cdot \pi \cdot 2880 \frac{1}{min} = 362 \frac{m}{min} = 6,03 \frac{m}{s}$$

$$3P.10 \quad v = 1,6 \frac{m}{s} \quad t = 2''$$

$$a = \frac{v}{t} = \frac{1,6 \frac{m}{s}}{2 s} = 0,8 \frac{m}{s^2}$$

$$39.11 \quad v = 50 \frac{\text{km}}{\text{h}} \quad t = 3 \text{ s}$$

$$v = 50 \frac{\text{km}}{\text{h}} = 13,9 \frac{\text{m}}{\text{s}}$$

$$a = \frac{v}{t} = \frac{13,9}{3} = 4,6 \frac{\text{m}}{\text{s}^2}$$

$$v = 50 \frac{1000 \text{ m}}{3600 \text{ s}} = 50 \cdot \frac{1 \text{ m}}{3,6 \text{ s}}$$

$$s = \frac{a}{2} \cdot t^2 = \frac{4,6}{2} \cdot 3^2 = 20,8 \text{ m}$$