

Školsko/gradsko/općinsko natjecanje iz fizike 2016/2017.

OSNOVNA ŠKOLA – rješenja i smjernice za bodovanje

1:

$$I = U/R \quad 1 \text{ bod}$$

$$I = 0,4 \text{ A} \quad 1 \text{ bod}$$

$$I_1 = \frac{1}{2} I \quad 1 \text{ bod}$$

$$I_1 = 0,2 \text{ A} \quad 1 \text{ bod}$$

$$\frac{1}{R_{par}} = \frac{1}{R_1} + \frac{1}{R_2} \quad 1 \text{ bod}$$

$$R_{par} = 5 \Omega \quad 1 \text{ bod}$$

ILI

ILI

$$R_{ukupno} = R_{par} + R_3 + R_4 \quad 1 \text{ bod} \quad U_3/R_3 = U_4/R_4 \quad 1 \text{ bod}$$

$$R_{ukupno} = 50 \Omega \quad 1 \text{ bod} \quad U = U_p + U_3 + U_4 \quad 1 \text{ bod}$$

$$U = I R_{ukupno} = 20 \text{ V} \quad 1 \text{ bod}$$

$$2. F = mg \quad 1 \text{ bod}$$

$$F = 530 \text{ N} \quad 1 \text{ bod}$$

$$A = 1400 \text{ A}_1 \quad 1 \text{ bod}$$

$$p = \frac{F}{A} \quad 1 \text{ bod}$$

$$p = 189 \text{ kPa} \quad 2 \text{ boda}$$

$$p_{ukupno} = p + p_{atm} \quad 1 \text{ bod}$$

$$p = 289 \text{ kPa} \quad 1 \text{ bod}$$

$$3. E_{poč} = E_{pg} = m \cdot g \cdot h \quad 1 \text{ bod}$$

$$E_{poč} = 0,8125 \text{ J} \quad 1 \text{ bod}$$

$$E_{kon} = 0 \quad 1 \text{ bod}$$

$$W = \Delta E \quad 2 \text{ boda}$$

$$W = F \cdot s \quad 1 \text{ bod}$$

$$F = 16,25 \text{ N} \quad 2 \text{ boda}$$

4. $P = U I$	1 bod
$P = 2 P_p + 2 P_s$	2 boda
$P = 52,8 \text{ W}$	1 bod
$W = P t$	1 bod
$E_{\text{raspoloživo}} = 65\% E_{\text{akumulatora}} = 487500 \text{ J}$	2 boda
$t = 9\,232,95 \text{ s}$	1 bod
$t = 2 \text{ h } 33 \text{ min}$	1 bod
$T_{\text{konačno}} = 21 \text{ h } 8 \text{ min}$	2 boda

5. $Q = m \cdot c \cdot \Delta t$	1 bod
Očitavanje iz grafa Δt i Q	4 boda
$m = \rho V$	1 bod
$m = 2 \text{ kg}$	1 bod
$c = 2000 \text{ J/kgK}$	2 boda
$P = \frac{W}{t}$	1 bod
$W = Q$	1 bod
$t = 110 \text{ s}$	3 boda