

Домашнее по физике
ученика 10^Б класса
№504 УМ №32

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N1

Dik: $v = 60 \text{ km/h} = 16,67 \text{ m/s}$
 $k = 0,8$
 $F_g = G_m$
 $R = ?$

Jawab:

$$F_{mp} = F_y$$

$$G_m \cdot k = m \cdot \frac{v^2}{R}$$

$$R = \frac{v^2}{g \cdot k}$$

$$R = \frac{60^2}{6 \cdot 8 \cdot 0,8} = 75 \text{ m}$$

Dib: $R = 75 \text{ m}$

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N2

Dik: $t = 4 \text{ s}$

Jawab:

$$S = \frac{1}{2} \cdot 15 \text{ cm/s} \cdot 4 \text{ s} = 30 \text{ cm}$$

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S - ?

N4

Dik: $R_0 = 80 \text{ } \Omega$
 $L_0 = 200 \text{ } \mu\text{H}$
 $I = 1 \text{ mA}$
 $d = 0,4 \text{ mm}$
 $P = 1,2 \text{ W}$
 $L = ?$

Jawab:

$$n = \frac{L}{L_0} = \frac{1 \cdot 10^{-5}}{200 \cdot 10^{-6}} = 5$$

$$R_{in} = \frac{R_0}{n-1} = \frac{80}{4} = 20 \text{ } \Omega$$

$$S = \pi r^2 = 3,14 \cdot (0,2)^2 = 0,1256 \text{ mm}^2$$

$$L = \frac{R_{in} \cdot S}{p} = \frac{20 \cdot 0,1256}{1,2} \approx 2,09 \text{ } \mu\text{H}$$

Dib: $L = 2,09 \text{ } \mu\text{H}$

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N3

Dano:

$$R_0 = 20 \text{ Ohm}$$

$$R_1 = 5 \text{ Ohm}$$

$R = ?$

Jawab:

$$R_0 = R_n + R_n$$

$$R_n = R_n = \frac{R_0}{2}$$

$$R = \frac{(R_1 + R_n) \cdot R_n}{(R_1 + R_n + R_n)} = \frac{(R_1 + \frac{R_0}{2}) \cdot \frac{R_0}{2}}{R_1 + 2 \cdot \frac{R_0}{2}} = \frac{1}{4} \cdot (2R_1 + R_0) \cdot \frac{R_0}{2}$$

$$\frac{R_0}{R_1 + R_0} = \left(\frac{1}{4} (10 + 20) \cdot \frac{20}{25} = \frac{30 \cdot 6}{4 \cdot 25} = \frac{6}{4} \right) = \frac{1}{4} \cdot 30 \cdot 20 = \frac{6}{25}$$

$$= \frac{15}{25} = \frac{3}{5} = 0,6 \text{ Ohm}$$

N5