1.46.-do-1.50.

1.46. JEDNOLIKO UBRZANO GIBANJE

$$S \text{ (U 8 I 9 SEKUNDI)} = 40 \text{ m}$$

$$a = ?$$

```
|———————————————— S ( ukupan ) ————————————————|
|                                        40 m
|—————————————————————————————————————|——/////|
0 sek                                  7      9 sek
```
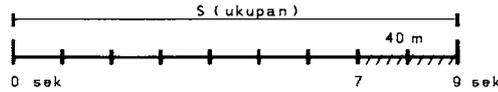
IZ CRTEŽA VIDIMO DA SE TIJELO GIBALO UKUPNO 9 SEKUNDI, TE DA JE UKUPAN PUT =

= PUT OD 0 – 7 SEK + PUT OD 7 – 9 SEK.   OPET UVRSTIMO FORMULU $S = \frac{a}{2} t^2$

$$S_{uk} = S_{0-7} + S_{7-9}$$

$$\frac{a}{2} t_9^2 = \frac{a}{2} t_7^2 + 40$$

$$\frac{a}{2} \cdot 9^2 = \frac{a}{2} \cdot 7^2 + 40$$

$$81 \frac{a}{2} = 49 \frac{a}{2} + 40$$

$$81 \frac{a}{2} - 49 \frac{a}{2} = 40$$

$$32 \frac{a}{2} = 40 \quad / \cdot 2$$

$$32 \cdot a = 80 \quad /: 32$$

$$a = 2,5 \frac{m}{s^2}$$

1.47. JEDNOLIKO USPORENO GIBANJE

$$-a = 2 \frac{m}{s^2}$$

$$t = 10 \text{ s}$$

$$v_0 = 0 \qquad \text{auto se zaustavio}$$

$$v = ?$$

$$S = ?$$

$$a = \frac{v}{t} \quad / \cdot t$$

$$a \cdot t = v$$

$$v = a \cdot t = 2 \cdot 10 = 20 \text{ m/s}$$

$$S = \frac{a}{2} t^2 = \frac{2}{2} \cdot 10^2 = 1 \cdot 100 = 100 \text{ m}$$

1.48. $-a = 0,4 \frac{m}{s^2}$

$$v = 20 \text{ m/s}$$

$$t = ?$$

$$S = ?$$

$$a = \frac{v}{t} \quad / \cdot t$$

$$a \cdot t = v \quad /: a$$

$$t = \frac{v}{a} = \frac{20}{0,4} = 50 \text{ s}$$

$$S = \frac{a}{2} t^2 = \frac{0,4}{2} \cdot 50^2 = 0,2 \cdot 2500 = 500 \text{ m}$$

1.49. $t_{ukupno} = 12 \text{ s}$

$$S_{ukupno} = 540 \text{ cm} = 540 : 100 = 5,4 \text{ m}$$

$$t_1 \text{ (jednoliko ubrzano gibanje)} = 6 \text{ s}$$

$$t_2 \text{ (jednoliko pravocrtno gibanje)} = 6 \text{ s}$$

$$S_1 = ?$$

$$v_6 = ?$$

PUT PREVALJEN U PRVOJ SEK →   t = 1 sek

$$a = 0,1 \frac{m}{s^2}$$

$$S_1 = \frac{a}{2} t^2 \qquad\qquad 6$$

$$S = \frac{0,1}{2} \cdot 1^2 = 0,05 \cdot 1 = 0,05 \text{ m}$$

SVEUKUPAN = S UBRZANOG GIBANJA + S JEDNOLIKOG PRAVOCRTNOG
GIBANJA

$$5,4 = \frac{a}{2} t_1^2 + v_6 \cdot t_2$$

$$5,4 = \frac{a}{2} \cdot 6^2 + v_6 \cdot 6$$

$$5,4 = \frac{a}{2} \cdot 36 + 6 \cdot v_6$$

$$5,4 = 18 \cdot a + 6 v_6$$

$$5,4 = \frac{18 \cdot v_6}{t_6} + 6 \cdot v_6$$

$$5,4 = \frac{18}{6} \cdot v_6 + 6 v_6$$

$$5,4 = 3 \cdot v_6 + 6 v_6$$

$$5,4 = 9 v_6 \quad /: 9$$

$$0,6 = v$$

$$v_6 = 0,6 \text{ m/s} \quad \text{brzina jednolikog gibanja}$$

$$a = \frac{v_6}{t_6}$$

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

1.50. SLOBODAN PAD

$$S = h = 150$$

$$g = 9,81 \frac{m}{s^2}$$

$$t = ?$$

$$S = \frac{g}{2} t^2 \quad / \cdot 2$$

$$2S = g \cdot t^2 \quad /: g$$

$$\frac{2S}{g} = t^2 \quad /\sqrt{}$$

$$t = \sqrt{\frac{2S}{g}} = \sqrt{\frac{2 \cdot 150}{9,81}} = \sqrt{30,58} = 5,53 \text{ sek}$$