Zadatak 21. Odredi a tako da odsječak pravca $ax + (1-a)y + 4 = 0$ na osi Oy bude dvostruko dulji od njegovog odsječka na osi Ox.

Rješenje.

$$ax + (1-a)y = -4 \quad / : (-4)$$
$$\frac{x}{-\frac{4}{a}} + \frac{y}{-\frac{4}{1-a}} = 1$$
$$\frac{x}{-\frac{4}{a}} + \frac{y}{\frac{4}{a-1}} = 1$$

$n = 2m$

$$\frac{4}{a-1} = 2 \cdot \left(-\frac{4}{a}\right) \quad / \cdot a(a-1)$$
$$4a = -8(a-1)$$
$$4a = -8a + 8$$
$$12a = 8$$
$$a = \frac{2}{3}$$

$n = -2m$

$$\frac{4}{a-1} = (-2) \cdot \left(-\frac{4}{a}\right) \quad / \cdot a(a-1)$$
$$4a = 8(a-1)$$
$$4a = 8a - 8$$
$$4a = 8$$
$$a = 2$$

Za $a = \frac{2}{3}$ imamo pravac $\frac{x}{-6} + \frac{y}{-12} = 1$, a za $a = 2$ pravac $\frac{x}{-2} + \frac{y}{4} = 1$.