



**ƎƎƎ, Ǝ<sup>1/4</sup>Ǝ, Ñ†ƎμÑ•Ǝ°Ǝ, Ǝμ ƎƎƎμÑ...Ǝ<sup>1/2</sup>Ǝ<sup>3/4</sup>Ǝ»Ǝ<sup>3/4</sup>Ǝ<sup>3</sup>Ǝ, Ǝ,**

**ƎƎƎ, Ǝ<sup>1/4</sup>Ǝ, Ñ†ƎμÑ•Ǝ°Ǝ, Ǝμ ƎƎƎμÑ...Ǝ<sup>1/2</sup>Ǝ<sup>3/4</sup>Ǝ»Ǝ<sup>3/4</sup>Ǝ<sup>3</sup>Ǝ, Ǝ,**

ı»žı»ž

**Ǝ—Ǝ°Ǝ´Ǝ°Ñ†Ǝ° 8-11**

**(ƎžƎ±Ǝ<sup>3/4</sup>Ñ€ÑƒƎ´Ǝ<sup>3/4</sup>Ǝ<sup>2</sup>Ǝ°Ǝ<sup>1/2</sup>Ǝ, Ǝμ Ǝ´Ǝ»Ñ•  
Ǝ<sup>1/2</sup>ƎμÑ,,Ñ,)**

ρÑƒƎ± 100



**Ǝ—Ǝ°Ǝ´Ǝ°Ñ†Ǝ° 8.11** Ǝ Ǝ°Ñ•Ñ•Ñ†Ǝ,Ñ,Ǝ°Ñ,ÑƎ Ñ€Ǝ°Ñ•Ñ...Ǝ<sup>3/4</sup>Ǝ´ Ǝ<sup>3</sup>Ǝ°Ǝ•Ǝ° Ñ€ƎμƎ<sup>3</sup>ƎμƎ<sup>1/2</sup>ƎμÑ€Ǝ°Ñ†Ǝ,Ǝ, Ǝ°Ñ•Ñ...Ǝ<sup>3/4</sup>Ǝ´Ǝ<sup>1/2</sup>Ñ•Ǝμ Ǝ´Ǝ°Ǝ<sup>1/2</sup>Ǝ<sup>1/2</sup>Ñ•Ǝμ: Ǝ°Ǝ<sup>3/4</sup>Ǝ»Ǝ,Ñ†ƎμÑ•Ñ,Ǝ<sup>2</sup>Ǝ<sup>3/4</sup> Ǝ°Ǝ´Ñ•Ǝ<sup>3/4</sup>Ñ€Ǝ±Ǝ,Ñ€Ǝ<sup>3/4</sup>Ǝ<sup>2</sup>Ǝ°Ǝ<sup>1/2</sup>Ǝ<sup>1/2</sup>Ǝ<sup>3/4</sup>Ǝ<sup>1</sup> Ǝ<sup>2</sup>Ǝ<sup>3/4</sup>Ǝ´Ñ• GH<sub>2</sub>O = 264 Ǝ°Ǝ<sup>3</sup>; Ǝ°Ǝ<sup>3/4</sup>Ǝ»Ǝ,Ñ†ƎμÑ•Ñ,Ǝ<sup>2</sup>Ǝ<sup>3/4</sup> Ǝ°Ǝ´Ñ•Ǝ<sup>3/4</sup>Ñ€Ǝ±Ǝ,Ñ€Ǝ<sup>3/4</sup>Ǝ<sup>2</sup>Ǝ°Ǝ<sup>1/2</sup>Ǝ<sup>1/2</sup>Ñ•Ñ... ÑƒƎ<sup>3</sup>Ǝ»ƎμƎ<sup>2</sup>Ǝ<sup>3/4</sup>Ǝ´Ǝ<sup>3/4</sup>Ñ€Ǝ<sup>3/4</sup>Ǝ<sup>2</sup> (Ǝ±ÑƒÑ,Ǝ°Ǝ<sup>1/2</sup>) GÑƒƎ<sup>3</sup> = 0,1\*GH<sub>2</sub>O = 26,4 Ǝ°Ǝ<sup>3</sup>; Ñ,ƎμƎ<sup>1/4</sup>ƎžƎμÑ€Ǝ°Ñ,ÑƒÑ€Ñ• (Ñ•Ǝ%. Ñ€Ǝ,Ñ•. 5.5) T<sub>1</sub> = 303, T<sub>2</sub> = 383, T<sub>3</sub> = 400, ƎƎ<sub>4</sub> = 473, T = 508, T<sub>4</sub> = 343, T<sub>B</sub> = 391,5, TƎ<sub>i</sub> = 436 K T<sub>D</sub> = 398 Ǝš; Ǝ´Ǝ°Ǝ<sup>2</sup>Ǝ»ƎμƎ<sup>1/2</sup>Ǝ,Ǝμ Ñ€ƎμƎ<sup>3</sup>ƎμƎ<sup>1/2</sup>ƎμÑ€Ǝ°Ñ†Ǝ,Ǝ, 2,0 ƎœƎŸƎ°; Ñ,Ǝ<sup>3/4</sup>Ǝ»Ñ%Ǝ,Ǝ<sup>1/2</sup>Ǝ° Ñ•Ñ,ƎμƎ<sup>1/2</sup>Ǝ°Ǝ, Ǝ°Ǝ´Ñ•Ǝ<sup>3/4</sup>Ñ€Ǝ±ƎμÑ€Ǝ° 0,025 Ǝ<sup>1/4</sup>; Ǝ<sup>2</sup>Ñ•Ñ•Ǝ<sup>3/4</sup>Ñ,Ǝ° Ǝ°Ǝ´Ñ•Ǝ<sup>3/4</sup>Ñ€Ǝ±ƎμÑ€Ǝ° Ǝ•1 = Ǝ• = 5 Ǝ<sup>1/4</sup>; Ǝ´Ǝ,Ǝ°Ǝ<sup>1/4</sup>ƎμÑ,Ñ€Ǝ°Ǝ´Ñ•Ǝ<sup>3/4</sup>Ñ€Ǝ±ƎμÑ€Ǝ° Ǝ<sup>2</sup>Ǝ<sup>1/2</sup>ÑƒÑ,Ñ€ƎμƎ<sup>1/2</sup>Ǝ<sup>1/2</sup>Ǝ,Ǝ<sup>1</sup> D = 1,0 Ǝ<sup>1/4</sup>; ƎžƎ<sup>3/4</sup>Ñ,ƎμÑ€Ǝ, Ñ,ƎμƎžƎ»Ǝ° Ǝ<sup>2</sup> Ǝ<sup>3/4</sup>Ǝ°Ñ€ÑƒƎƒƎ°ÑžÑ%ÑƒÑž Ñ•Ñ€ƎμƎ´Ñƒ 10%.



ĐđĐμĐ¼ĐđĐμÑĐ°Ñ,ÑfÑĐ½ÑĐ¹ ÑĐμĐ¶Đ,Đ¼ Đ°ĐÑ•Đ¼ÑĐ±ĐμÑĐ° ĐđÑĐ, ÑĐμÑˆĐ³ĐμĐ½ĐμÑĐ°Ñ†Đ,Đ, Đ, Đ¼Ñ...Đ»Đ°Đ¶ĐˆĐμĐ½Đ,Đ,

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ĐŸĐ¼Đ»ÑfÑ†Đ,Ñ,ÑĐĐ Đ°Đ½Đ½ÑfÑŽ Đ•Đ°ĐˆĐ°Ñ†Ñf Đ²Đ¼Đ•Đ¼Đ¼Đ¶Đ½Đ¼ Đ½Đ°Đ¶Đ² Đ°Đ½Đ¼ĐđĐ°Ñf "Đ°ÑfĐđÑ,ÑĐ" Đ, ĐđÑĐ¼Đ¹Ñ,Đ, ĐđÑĐ¼Ñ•Ñ,ÑfÑŽ ÑĐμĐ³Đ,Ñ•Ñ,ÑĐ°Ñ†Đ,ÑŽ. Đ"Đ°Đ»ĐμĐμ Đ²Ñ ĐđĐ¼ĐđĐ°ĐˆĐμÑ,Đμ Đ² Ñ•ĐμÑĐ²Đ,Ñ• Đ¼Đ½-Đ»Đ°Đ¹Đ½, Đ³ĐˆĐμ Đ²Đ°Đ¼ Đ±ÑfĐˆĐμÑ, ĐđÑĐμĐˆĐ»Đ¼Đ¶ĐμĐ½Đ¼ Đ²ÑĐ±ÑĐ°Ñ,ÑĐ Ñ•ĐđĐ¼Ñ•Đ¼Đ± Đ¼ĐđĐ»Đ°Ñ,Ñ Đ, Đ¼ĐđĐ»Đ°Ñ,Đ,Ñ,ÑĐĐ•Đ°Đ°Đ. ĐŸĐ¼Ñ•Đ»Đμ ĐđĐ¼ĐˆÑ,Đ²ĐμÑĐ¶ĐˆĐμĐ½Đ,Ñ• Đ¼ĐđĐ»Đ°Ñ,ÑĐ Đ²ÑĐ ĐđĐ¼Đ»ÑfÑ†Đ,Ñ,Đμ Đ•Đ°Đ°Đ°Đ•Đ°Đ½Đ½ÑfÑŽ Đ•Đ°ĐˆĐ°Ñ†Ñf. Đ—Đ°ĐˆĐ°Ñ†Đ° ĐđÑĐμĐˆÑ•Ñ,Đ°Đ²Đ»ĐμĐ½Đ° Đ²Đ²Đ,ĐˆĐμÑ•Đ°Đ°Đ½Đ¼Đ² Đ,Đ. Đ»Đ,Ñ,ĐμÑĐ°Ñ,ÑfÑÑĐ. Đˆ Ñ•Đ»ÑfÑ†Đ°Đμ Đ²Đ¼Đ•Đ½Đ,Đ°Đ½Đ¼Đ²ĐμĐ½Đ,Ñ• Đ•Đ°Ñ,ÑÑfĐˆĐ½ĐμĐ½Đ,Đ¹ Ñ•Đ¼Đ¼Ñ,ÑĐ, ÑfÑ•Đ»Đ¼Đ²Đ,Ñ• Đ¼Đ±Ñ•Đ»ÑfĐ¶Đ,Đ²Đ°Đ½Đ,Ñ• Đ, Đ½Ñ,Đ¼ÑĐ¼Đ°Ñ†Đ,ÑŽ Đ¼ ĐđÑĐ¼ĐˆĐ°Đ²Ñ†Đμ.

[ĐˆĐ½Ñ,Đ¼ÑĐ¼Đ°Ñ†Đ,Ñ•Đ¼ ĐđÑĐ¼ĐˆĐ°Đ²Ñ†Đμ](#)