

① A - паху, менф.

$$a = 200$$

$$b = 800$$

$$M = \frac{a+b}{2} = \frac{200+800}{2} = 500$$

$$\sigma^2 = \frac{(b-a)^2}{12} = \frac{(800-200)^2}{12} = 3000$$

② B - менф. паху.

$$\sigma = 0.2 \quad a = 0.5$$

$$\sigma^2 = \frac{(b-a)^2}{12} \Rightarrow b-a = \sqrt{12 \cdot \sigma^2}$$

$$\Rightarrow b = \sqrt{12 \cdot 0.04} + 0.5 = \sqrt{12 \cdot 0.04} + 0.5 = \\ = 1.55 + 0.5 = 2.05$$

$$M = \frac{a+b}{2} = \frac{0.5 + 2.05}{2} = 1.275$$

③ X - норм. менф

$$f(x) = \frac{1}{4\sqrt{2\pi}} \cdot e^{-\frac{(x-2)^2}{32}}$$

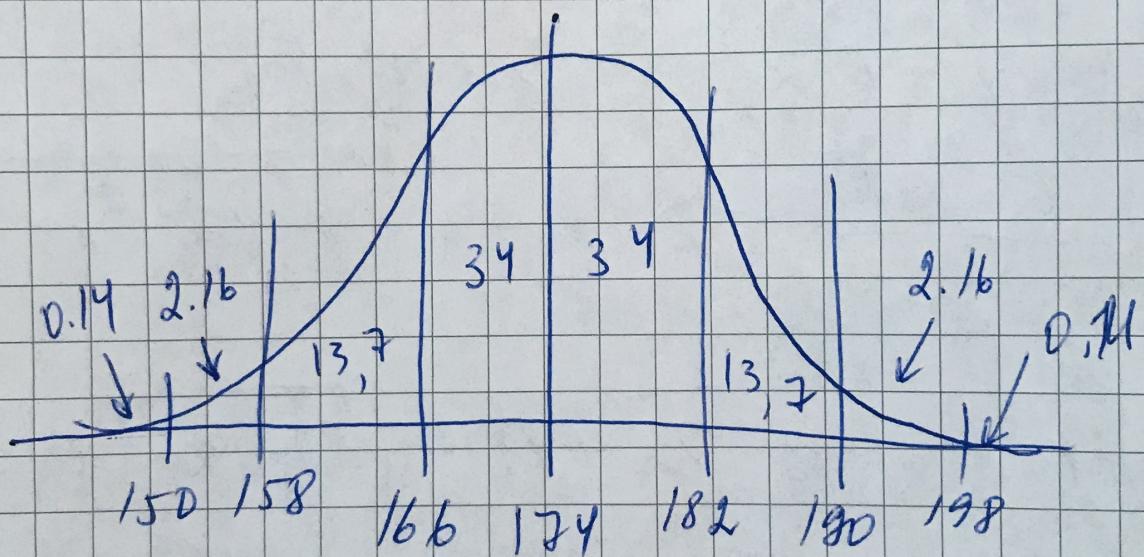
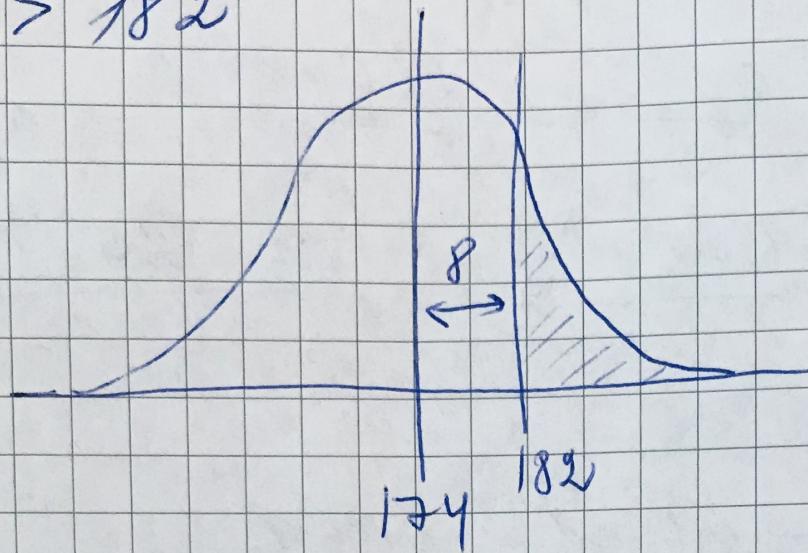
$$\text{но прошуше } f(x) = \frac{1}{\sqrt{2\pi}} e^{-\frac{(x-4)^2}{2s^2}}$$

$$M(x) = -2 \text{ (M)} \quad \text{std}(x) = 4 \text{ (s)} \quad Q(x) = 16 \text{ (s^2)}$$

4

 $X - \text{mean, normal}$ 

$$M = 174 \text{ cm}, \sigma = 8 \text{ cm}$$

a)  $> 182$ 

$$P = 0.14 + 2.16 + 0.11 = 16 \quad (13,7 + 2,16 + 0,14)$$

b)  $> 190$ 

$$2.16 + 0.14 = 2.3$$

c)  $166 - 182 \quad (-\sigma; +\sigma)$ 

allergy count - 68;

$$8) 166 - 190$$

$$68 + 13,7 = 81,7 \text{ \%}$$

$$9) 158 - 190 \quad (-20; 20)$$

$$95,4 \text{ \%}$$

$$e) < 150, > 190$$

$$0,14 + 2 \cdot 16 + 0,14 = 2,44 \text{ \%}$$

$$\ddot{e}) < 150, > 198$$

$$0,14 \cdot 2 = 0,28 \text{ \%}$$

$$n) < 160$$

$$13,7 + 2,16 + 0,14 = 16 \text{ \%}$$

5)  $M = 178, D = 25 \quad X = 190$

$$r = 5$$

$$\frac{190 - 178}{5} = 2,4$$