

1)  $\mu = 75, \sigma = 9.$

a)  $\frac{79.5 - 75}{9} = 0.5.$



查表得阴影部分左边的概率为 0.3085

即  $P = 1 - 0.3085 = 0.6915.$

b)  $\frac{93.5 - 75}{9} = 2.056 \approx 2.06$

$P = 1 - 0.0197 = 0.9803$

c)  $\frac{63.5 - 75}{9} = -1.28$



$\frac{87.5 - 75}{9} = 1.39$

$P = (0.5 - 0.0823) + (0.5 - 0.1003)$   
 $= 0.8174$

d)  $\frac{71.5 - 75}{9} = -0.39$        $\frac{78.5 - 75}{9} = 0.39$

$P = 2 \times (0.5 - 0.3483) = 0.3034.$

(2)  $\frac{106.5 - 100}{12} = 0.54$

化为标准分布但非正态分布.

(3) a)  $E = np = 100 \times 0.8 = 80.$

b)  $\sigma = \sqrt{npq} = 4.$

$\frac{95.5 - 80}{4} = 3.875$

$\frac{3.8 - 3.875}{3.8 - 3.9} = \frac{0.00007 - \pi}{0.00007 - 0.00005} \Rightarrow \pi = 0.000055$

c)  $\frac{94.5 - 80}{4} = 3.625.$

$\frac{3.6 - 3.625}{3.6 - 3.7} = \frac{0.0002 - \pi}{0.0002 - 0.0001} = 0.000175.$

$P = 1 - 0.000175 = 0.999825.$

d)  $P = 0.999825 - 0.000055 + 1 = 0.00012.$

答对的概率为 0.5.  $np = 36 \times 0.5 > 10.$   $nq = np > 10.$ 

$\mu = np = 18$        $\sigma = \sqrt{npq} = 3.$

$\frac{23.5 - 18}{3} = 1.83$

$P = 0.0336$