9 de Noviembre de 2016

- Aproximación de la distribución Poisson (VAD) a la distribución Normal (VAC).

Pd

$E(x) = \lambda t$
$V(x) = \lambda t$
$\lambda t > 10$

$\mu = \lambda t$

$\sigma = \sqrt{\lambda t}$
desv. estándar

$\leq$ $>$	$+0.5$
$\geq$ $<$	-0.5

$$Z = \frac{X - \mu \pm 0.5}{\sigma}$$

carretera por la caseta de cobro pasan un promedio historico 27/hora

$\mu = \lambda t \Rightarrow 27 > 10 \qquad \sigma = \sqrt{\lambda t} \Rightarrow \sqrt{27}$

$\sqrt{27} = 5.196$

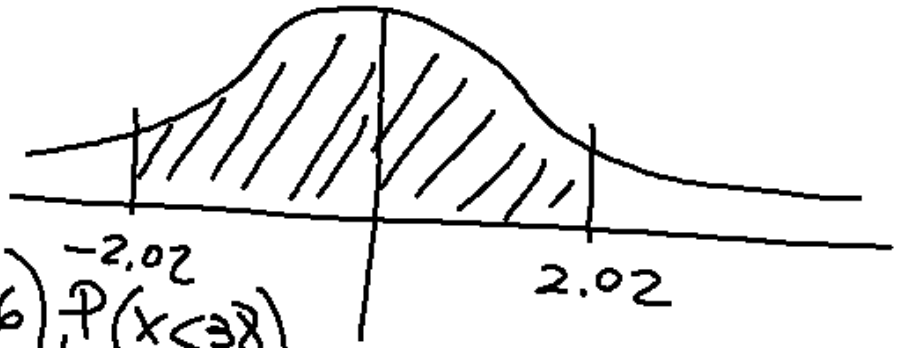
¿Probabilidad de que pasen entre 17 y 37?

$P(x=17) + P(x=18) + \ldots\ldots\ldots + P(x<37)$

$P(17 \leq x \leq 37) = P(x>16), P(x<38)$

$Z = \dfrac{16 - 27 + 0.5}{\sqrt{27}} \qquad Z = \dfrac{38 - 27 - 0.5}{\sqrt{27}}$

$Z_{16} = -2.0207 \qquad Z_{38} = 2.0207$



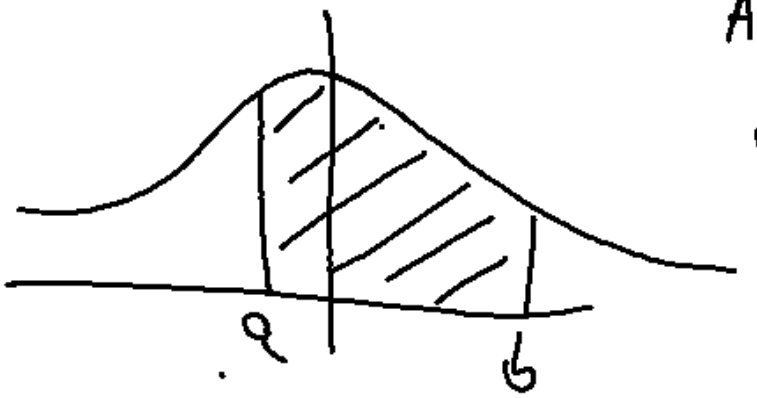
$\Phi(z)$

$P(x>16) ; P(x<38)$

$= 95,66\ \%$

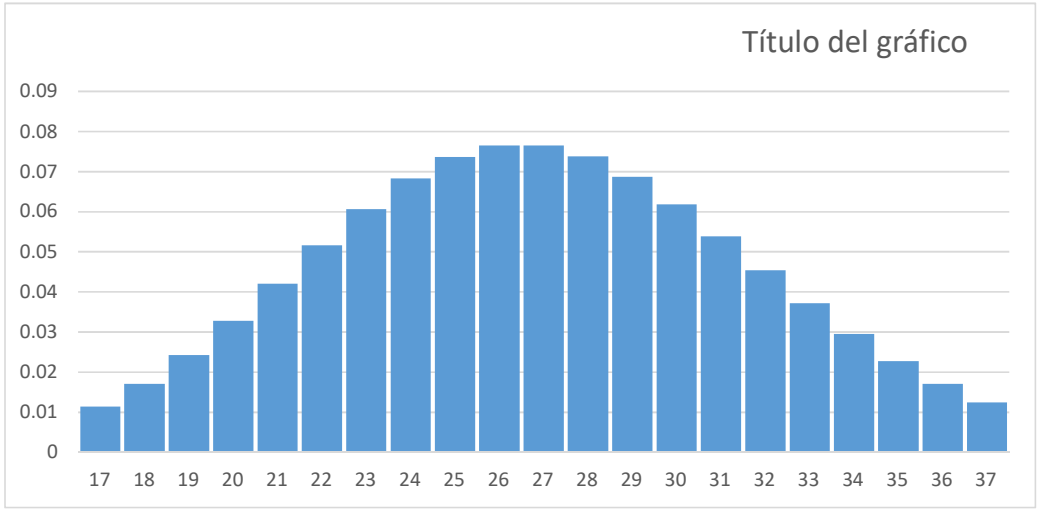
$\Phi_A(z=b) - P_A(z=a)$

$\phi(b) - \phi(a)$



mu= 27

17	0.01138058
18	0.01707087
19	0.02425861
20	0.03274912
21	0.04210601
22	0.05167556
23	0.06066262
24	0.06824544
25	0.07370508
26	0.07653989
27	0.07653989
28	0.07380632
29	0.06871623
30	0.06184461
31	0.05386466
32	0.04544831
33	0.03718498
34	0.02952925
35	0.0227797
36	0.01708478
37	0.01246727
	0.95765978



-2.02		0.021691694
-2	0.053990967	
-1.9	0.065615815	
-1.8	0.078950158	
-1.7	0.094049077	
-1.6	0.110920835	
-1.5	0.129517596	
-1.4	0.149727466	
-1.3	0.171368592	
-1.2	0.194186055	
-1.1	0.217852177	
-1	0.241970725	
-0.9	0.26608525	
-0.8	0.289691553	
-0.7	0.312253933	
-0.6	0.333224603	
-0.5	0.352065327	
-0.4	0.36827014	
-0.3	0.381387815	
-0.2	0.391042694	
-0.1	0.396952547	
0	0.39894228	
0.1	0.396952547	
0.2	0.391042694	
0.3	0.381387815	
0.4	0.36827014	
0.5	0.352065327	
0.6	0.333224603	
0.7	0.312253933	
0.8	0.289691553	
0.9	0.26608525	
1	0.241970725	
1.1	0.217852177	
1.2	0.194186055	
1.3	0.171368592	
1.4	0.149727466	
1.5	0.129517596	
1.6	0.110920835	
1.7	0.094049077	
1.8	0.078950158	
1.9	0.065615815	
2	0.053990967	
2.02		0.978308306
		0.956616612