

Complete the 4 blanks in the following table.  
Expected frequencies are computed from the normal distribution.  
Age of mothers of students taking Biol 4605 and 7220 in 2000

Age Range	Age x	Obs Freq F(Age=x)	Sum(Age)	Sum(Age*Age)	Expected Freq 42*Pr(Age=x)	Obs-Exp	Cumulative Frequency F(Age≤x)
16-20	18	2	36	648	3.20	-1.20	2
21-25	23	17	391	8993	11.80	5.20	19
26-30	<b>28</b>	<b>11</b>	308	8624	16.36	<b>-5.36</b>	<b>30</b>
31-35	33	10	330	10890	8.51	1.49	40
36-40	38	2	76	2888	1.66	0.34	42
41-45	43	0	0	0	0.12	-0.12	42
Sum		42	1141	32043	41.66	0.34	
mean(Age)			27.1667				
var(Age)				25.5081			
stdev(Age)				5.0506			

(2) The variance in age is 25.51 yr<sup>2</sup>.  
How would you compute the standard deviation from this variance?

**The standard deviation is the square root of the variance**

(3) Mean(age(1997)) = 27.8 years  
Mean(age(2000)) = 27.2 years

Write a null / alternative hypothesis pair to test whether age of students in 1997 differs from 2000.

**H<sub>0</sub> Mean(age(1997)) = Mean(age(2000))**

**H<sub>A</sub> Mean(age(1997)) ≠ Mean(age(2000))**

(4) Write a data equation for F(Age=33), for which the frequency is 10.

$$\underline{10} = \underline{8.51} + \underline{1.49}$$