

1a. Complete the following table for ages of mothers of students in this course in 2009.
[6]

x	F(Age=x)	F(Age=x)/n	F(Age≤x)	F(Age<x)/n
18	2			2
23	10	10/46		12
28	16			28
33	14			42
38	4			46
43	0			46

1b. Assuming a normal distribution of ages of mothers, the expected frequency, in 2009, is $E(F[\text{Age}=x]) = 1.84$ for the age group 16-20. Write a data equation for this age group.

$$\frac{2}{\text{Data value}} = \frac{1.84}{\text{Model value}} + \frac{0.16}{\text{residual}} \quad [3]$$

2. For each of the following decisions, (a) state the “no effect” or null hypothesis; (b) state the decision made relative to this hypothesis; (c) identify whether the decision is at risk of Type I or Type II error.

The government of Alberta decides not to fund a study of the Zamboni surgical treatment for multiple sclerosis.

- (a) Zamboni treatment has no effect H_0 [1]
 (b) Accept no effect hypoth [1]
 (c) At risk of Type II error [1]

An horticulturalist concludes that a new fertilizer increases the number of blossoms per plant.

- (a) new fertilizer has no effect H_0 [1]
 (b) Reject the no effect hypothesis [1]
 (c) Decision is at risk of Type I error [1]

Decision	Null Hypothesis is:	
	True	False
Reject	Type I	✓
Accept	✓	Type II