

60080079 Introduction to Statistical Methods
Semester 2 2023-2024
Solutions 4

1. Write your answer as a four-digit number: **1913**

	$n = 10$	$n = 10,000$
$\mu_{\bar{X}}$	[a] 0.10	[c] 0.10
$\sigma_{\bar{X}}$	[b] 0.0949	[d] 0.0030

For $n = 10$, $\mu_{\bar{X}} = \mu = 0.10$ and $\sigma_{\bar{X}} = \sigma/\sqrt{n} = 0.30/\sqrt{10} = 0.0949$; for $n = 10,000$,
 $\mu_{\bar{X}} = \mu = 0.10$ and $\sigma_{\bar{X}} = \sigma/\sqrt{n} = 0.30/\sqrt{10000} = 0.0030$.

2. Write your answer as a two-digit number: **60**

For $n = 10$, $\bar{X} = Z? \sigma_{\bar{X}} \mu_{\bar{X}} = 0.6745? 0.0949 \quad 0.1000 = 0.1640$; for $n = 10,000$,
 $\bar{X} = Z? \sigma_{\bar{X}} \mu_{\bar{X}} = 0.6745? 0.0030 \quad 0.1000 = 0.1020$.

3. Write your answer as a two-digit number: **21**

Percentiles

		Percentiles				
		5	10	25	50	75
Weighted Average (Definition 1)	n_10	.0000000	.0000000	.0000000	.1000000	.2000000
	n_10K	.0949000	.0961000	.0979000	.1000000	.1019000
Tukey's Hinges	n_10			.0000000	.1000000	.2000000
	n_10K			.0979000	.1000000	.1019000

4. Write your answer as a three-digit number: **302**

For $n = 10$, $|0.1640 - 0.2000| = 0.0360$; for $n = 10,000$, $|0.1020 - 0.1019| = 0.0001$.

5. Write your answer as a four-digit number: **3134**

6. Write your answer as a two-digit number: **41**

7. Write your answer as a three-digit number: **143**

8. Write your answer as a two-digit number: **24**