

**SUBJECTIVE SCORE
INSTRUCTOR USE ONLY**

100	90	80	70	60
50	40	30	20	10
9	8	7	6	5
4	3	2	1	0

(T) (F) KEY

0% 2 3

- 1 A B C D E
- 2 A B C D E
- 3 A B C D E
- 4 A B C D E
- 5 A B C D E
- 6 A B C D E
- 7 A B C D E
- 8 A B C D E
- 9 A B C D E
- 10 A B C D E
- 11 A B C D E
- 12 A B C D E
- 13 A B C D E
- 14 A B C D E
- 15 A B C D E
- 16 A B C D E
- 17 A B C D E
- 18 A B C D E
- 19 A B C D E
- 20 A B C D E
- 21 A B C D E
- 22 A B C D E
- 23 A B C D E
- 24 A B C D E
- 25 A B C D E
- 26 A B C D E
- 27 A B C D E
- 28 A B C D E
- 29 A B C D E
- 30 A B C D E
- 31 A B C D E
- 32 A B C D E
- 33 A B C D E
- 34 A B C D E
- 35 A B C D E
- 36 A B C D E
- 37 A B C D E
- 38 A B C D E
- 39 A B C D E
- 40 A B C D E
- 41 A B C D E
- 42 A B C D E
- 43 A B C D E
- 44 A B C D E
- 45 A B C D E
- 46 A B C D E
- 47 A B C D E
- 48 A B C D E
- 49 A B C D E
- 50 A B C D E

PART 1

USE NO. 2 PENCIL ONLY

IMPORTANT

TO USE SUBJECTIVE SCORE FEATURE:

- MAKE DARK MARKS
- ERASE COMPLETELY TO CHANGE
- Mark total possible subjective points
- Only one mark per line on key
- 163 points maximum

EXAMPLE OF STUDENT SCORE:

100	90	80	70	60
50	40	30	20	10
9	8	7	6	5
4	3	2	1	0

Customer Service
1-800-SCANTION

FEED THIS DIRECTION

SCANTION®

FORM NO. 882-E

**FOR USE ON
TEST SCORING
MACHINE ONLY**

NAME	E1
SUBJECT	103
DATE	
TEST NO.	A
PERIOD	

REORDER ONLINE
www.ScantionStore.com

TEST RECORD	
PART 1	
PART 2	
TOTAL	



**SUBJECTIVE SCORE
INSTRUCTOR USE ONLY**

100	90	80	70	60
50	40	30	20	10
9	8	7	6	5
4	3	2	1	0

PART 1

(T) (F) KEY

% 2 3

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
12	A	B	C	D	E
13	A	B	C	D	E
14	A	B	C	D	E
15	A	B	C	D	E
16	A	B	C	D	E
17	A	B	C	D	E
18	A	B	C	D	E
19	A	B	C	D	E
20	A	B	C	D	E
21	A	B	C	D	E
22	A	B	C	D	E
23	A	B	C	D	E
24	A	B	C	D	E
25	A	B	C	D	E
26	A	B	C	D	E
27	A	B	C	D	E
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E
31	A	B	C	D	E
32	A	B	C	D	E
33	A	B	C	D	E
34	A	B	C	D	E
35	A	B	C	D	E
36	A	B	C	D	E
37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E
40	A	B	C	D	E
41	A	B	C	D	E
42	A	B	C	D	E
43	A	B	C	D	E
44	A	B	C	D	E
45	A	B	C	D	E
46	A	B	C	D	E
47	A	B	C	D	E
48	A	B	C	D	E
49	A	B	C	D	E
50	A	B	C	D	E

IMPORTANT

USE NO. 2 PENCIL ONLY

- MAKE DARK MARKS
- ERASE COMPLETELY TO CHANGE
- EXAMPLE: A B C D E

TO USE SUBJECTIVE SCORE FEATURE:

- Mark total possible subjective points
- Only one mark per line on key
- 163 points maximum

EXAMPLE OF STUDENT SCORE:

100	90	80	70	60	50	40	30	20	10	0
1	2	3	4	5	6	7	8	9	10	11

SCANTRON®

FORM NO. 882-E

FOR USE ON TEST SCORING MACHINE ONLY

NAME	FE1
SUBJECT	103
DATE	
TEST NO.	C
PERIOD	

REORDER ONLINE
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TEST RECORD	
PART 1	
PART 2	
TOTAL	

**SUBJECTIVE SCORE
INSTRUCTOR USE ONLY**

100	90	80	70	60
50	40	30	20	10
9	8	7	6	5
4	3	2	1	0

PART 1

(T) (F) KEY

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
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30	A	B	C	D	E
31	A	B	C	D	E
32	A	B	C	D	E
33	A	B	C	D	E
34	A	B	C	D	E
35	A	B	C	D	E
36	A	B	C	D	E
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39	A	B	C	D	E
40	A	B	C	D	E
41	A	B	C	D	E
42	A	B	C	D	E
43	A	B	C	D	E
44	A	B	C	D	E
45	A	B	C	D	E
46	A	B	C	D	E
47	A	B	C	D	E
48	A	B	C	D	E
49	A	B	C	D	E
50	A	B	C	D	E

IMPORTANT

USE NO. 2 PENCIL ONLY

- MAKE DARK MARKS
- ERASE COMPLETELY TO CHANGE
- EXAMPLE: (A) (B) (C) (D) (E)

TO USE SUBJECTIVE SCORE FEATURE:

- Mark total possible subjective points
- Only one mark per line on key
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EXAMPLE OF STUDENT SCORE:

100	90	80	70	60
50	40	30	20	10
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Customer Service
1-800-SCANTRON

FEED THIS DIRECTION

SCANTRON® EM-882-E-4-19

SCANTRON®

FORM NO. 882-E

FOR USE ON TEST SCORING MACHINE ONLY

NAME	E1
SUBJECT	103
DATE	
TEST NO.	D
PERIOD	

REORDER ONLINE
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TEST RECORD	
PART 1	
PART 2	
TOTAL	20

MATH 103 EXAM ONE
PART II/FREE ANSWER/40 POINTS POSSIBLE
SHOW ALL WORK FOR FULL CREDIT!!!

Use the following information to answer question 1. DO NOT USE THE STAT FEATURE ON YOUR CALCULATOR FOR THIS PROBLEM.

1. (20 points) A simple random sample of FICO credit rating scores was obtained, and the sorted scores are listed below.

567 617 690 698 718 720 758 770 811 820 838 839

- a. (10 points) Give (and clearly label) the values of the five number summary.

$$Q_1: \frac{690 + 698}{2} = 694$$

$$\text{median: } \frac{720 + 758}{2} = 739$$

$$Q_3: \frac{811 + 820}{2} = 815.5$$

567, 694, 739, 815.5, 839

- b. (5 points) Check for outliers: show all work:

$$\text{IQR} = 815.5 - 694 = 121.5$$

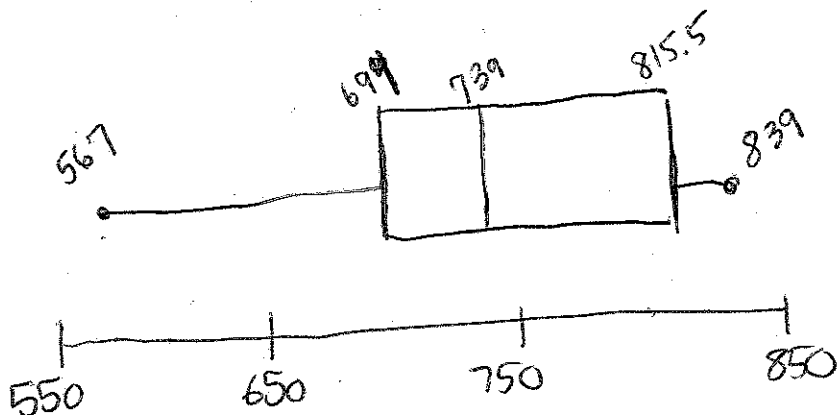
Outlier check:

$$\begin{aligned} Q_1 - 1.5 \cdot \text{IQR} &= 694 - 1.5(121.5) \\ &= 694 - 182.25 \\ &= 511.75 \end{aligned}$$

$$\begin{aligned} Q_3 + 1.5 \cdot \text{IQR} &= 815.5 + 1.5(121.5) \\ &= 815.5 + 182.25 \\ &= 997.75 \end{aligned}$$

NO outliers

- c. (5 points) Construct a modified boxplot.



3. (4 points) A woman wrote to *Dear Abby* and claimed that she gave birth 308 days after a visit from her husband, who was in the Navy. Lengths of pregnancies have a mean of 268 days and a standard deviation of 15 days. Find the z score for 308 days. Is such a length unusual? What do you conclude? EXPLAIN.

$$\bar{x} = 268 \text{ days}$$

$$s = 15 \text{ days}$$

$$z = \frac{308 - 268}{15} \approx 2.67$$

Giving birth ⁱⁿ 308 days is unusual as it is more than 2 standard deviations above the mean. One could conclude that she conceived after his visit.