

Math 153 - Quiz 3

February 27, 2014

Name key

Score _____

Show each step to receive full credit. Supply explanations when necessary.

1. (10 points) Test scores for two different classes are shown below.

Class 1: 57, 58, 59, 60, 62, 72, 75, 76, 76, 79, 80, 80, 81, 86, 86, 86, 87, 93, 93 ← 19 NUMBERS

Class 2: 54, 67, 67, 75, 77, 77, 79, 82, 83, 84, 85, 85, 87, 87, 90, 90, 92, 92, 92, 95 ← 20 NUMBERS

(a) Sketch a modified boxplot for each class. 84.5 90

CLASS 1

CUTOFFS:

$$62 - 36 = 26$$

$$86 + 36 = 122$$

No OUTLIERS.

$$Q_1 = 62$$

$$Med = 79$$

$$Q_3 = 86$$

$$IQR = 86 - 62 = 24$$

$$1.5 \times IQR = 36$$

CLASS 2

CUTOFFS:

$$Q_1 = 77$$

$$77 - 19.5 = 57.5$$

$$Med = 84.5$$

$$90 + 19.5 = 109.5$$

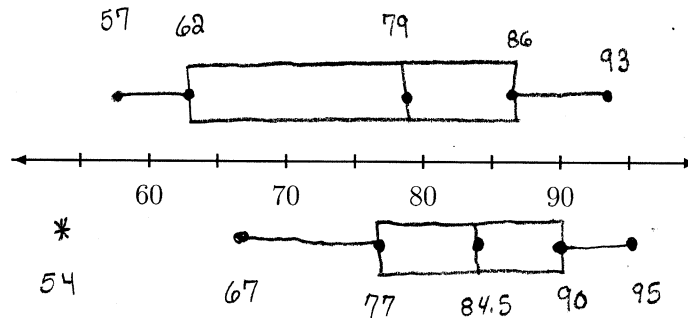
$$Q_3 = 90$$

54 IS AN

$$IQR = 90 - 77 = 13$$

OUTLIER.

$$1.5 \times IQR = 19.5$$



(b) Which class did better? Explain.

CLASS 2 DID BETTER. NEARLY 50% OF CLASS 2'S SCORES LIE IN THE UPPER EXTREME FOR CLASS 1. CLASS 2 HAS LESS SPREAD, AND FOR THE MOST PART, CLASS 2 SCORES ARE SHIFTED TO THE RIGHT (HIGHER) COMPARED TO CLASS 1.