

Math 206 - Quiz 7

March 7, 2012

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (1.5 points) Use the "Continents of the world" data from Problem 5b on page 613 to construct the corresponding circle graph.

TOTAL AREA OF CONTINENTS: $57,043,000 \text{ mi}^2$

AFRICA: $20.5\% \rightarrow 73.8^\circ$

ANTARCTICA: $8.94\% \rightarrow 32.2^\circ$

ASIA: $29.75\% \rightarrow 107.1^\circ$

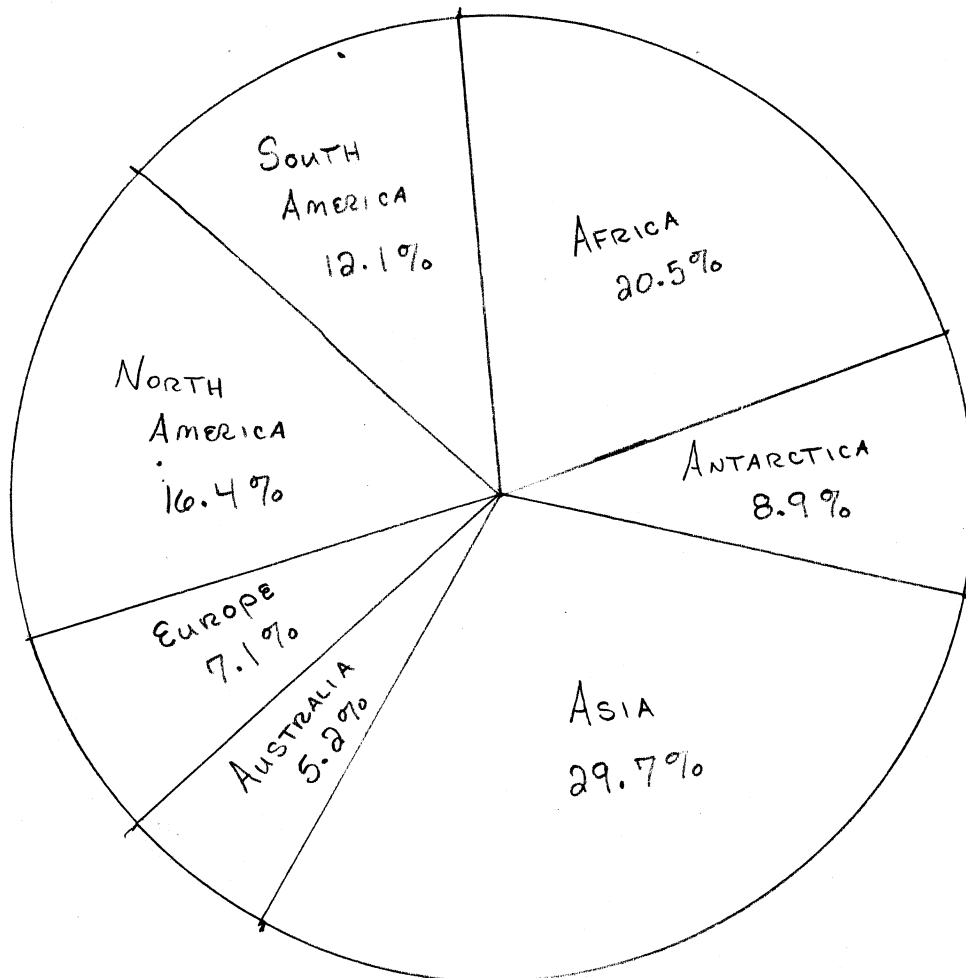
AUSTRALIA: $5.2\% \rightarrow 18.7^\circ$

EUROPE: $7.1\% \rightarrow 25.7^\circ$

NORTH AMERICA: $16.4\% \rightarrow 59.1^\circ$

SOUTH AMERICA: $12.1\% \rightarrow 43.5^\circ$

CONTINENTS OF THE WORLD



2. (3 points) Using the data given below, construct or determine each of the following: stem-and-leaf plot, mean, median, mode, standard deviation, IQR, outliers, box-and-whisker plot.

~~43, 12, 50, 50, 48, 61, 43, 39, 50, 54~~

1	2
2	
3	9
4	3 3 8
5	0 0 4 6
6	1

$$\bar{X} = \frac{456}{10} = 45.6$$

$$\text{Med} = \frac{48 + 50}{2} = 49$$

$$\text{Mode} = 43 \text{ AND } 50 \quad (\text{Two modes})$$

$$\sigma = 12.83 \quad (\text{CALCULATOR})$$

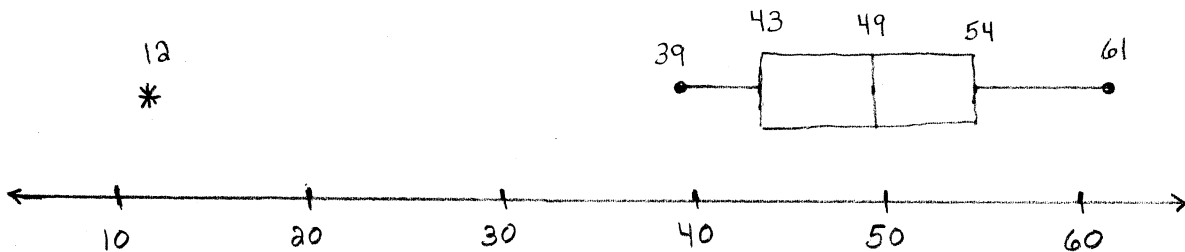
$$Q_1 = 43 \quad \rightarrow \quad \text{IQR} = 54 - 43 = 11$$

$$Q_3 = 54$$

$$\text{OUTLIER CUTOFFS: } 43 - 1.5 \times 11 = 26.5$$

$$54 + 1.5 \times 11 = 70.5$$

12 IS THE ONLY OUTLIER



3. (0.5 points) 11 scores with a mean of 37 are added to the list above. What is the new mean?

$$\text{New } \bar{X} = \frac{456 + 11 \times 37}{21} = \frac{863}{21} \approx 41.1$$