National University
of Computer & Emerging Sciences

Probability & Statistics *Quiz #01* *Section-BSE (A)*

Question 1:

By using properties of arithmetic mean, find the missing age in the following set of four student ages.

Student	Age	Deviation from the Mean $(x_i - \bar{x})$
A	19	-4
B	20	-3
C	?	1
D	29	6
		0

$19 - 23 = -4$

$20 - 23 = -3$

$24 - 23 = 1$

$29 - 23 = 6$

Answer: 24

Question 2:

Write the suitable answer against each statement:

$v = \frac{d}{t}$ $t = 6\,h$ $t = 2\,h$ $\frac{10+10}{6+2} =$

1. We travel 10 km at 60 km/h, than another 10 km at 20 km/h, what is our average speed?
   Answer: 2.5 km/h
2. What is the suitable average of the annual percentage growth rate of profits in business corporate from the year 2000 to 2005
   Answer: geometric mean
3. The mean of 14 numbers is 6. If 3 is added to every number, what will be the new mean?
   Answer: $6+3 = 9$ new mean $= 9$.

Question 3:

If a student is ranked eight out of ten in a competition, what is the student's percentile rank?

$\frac{x}{100} \times 100 = 8$

$x = 80$

Question 4:

$\bar{x}$ $s = 5$

The mean of the number of sales of cars over a 3-month period is 87, and the standard deviation is 5. The mean of the commissions is \$5225, and the standard deviation is \$773. Compare the variations of the two.

sales	comissions
$C.V = \frac{s}{\bar{x}}$	$C.V = \frac{s}{\bar{x}}$
$= \frac{5}{87} \times 100$	$= \frac{773}{5225} \times 100$
$= 5.75\%$	$= 14.8\%$

The commissions have higher variation than car sales, and thus less consistency.