Quiz Chapter 9

Your answers: shade in the cell that best completes the statement or answers the question

	1	2	3	4	5
a					
b					
c					
d					
e					

1. A 500-point drop in the DJIA was a big drop when the DJIA was at 2246 in October 1987 and a much smaller drop when the DJIA reached 11,421 in September 2008. The percent by which stock prices fall is a more meaningful measure. The lesson here is that

a. rates are often more meaningful than counts.

b. it is easy to make a mistake calculating a percent.

c. the DJIA is a categorical variable.

d. confidentiality has been violated.

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2. The value of a home decreased from $150,000 to $135,000.

    a. This is a decrease of 15%. $\dfrac{N_{t+1} - N_t}{N_t}$

    b. This is a decrease of 10%.

    c. This is a decrease of 1%.

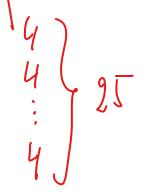   d. This is a decrease of 11%. $= \dfrac{135K - 150K}{150K} = \dfrac{-15K}{150K}$

    e. This is a decrease of 100%.

$$= -0.1 = -10\%$$

3. A student reports that, of a simple random sample of 25 college undergraduate students, 18% were working at least two jobs. We know that the student has made a mistake (or maybe really did not conduct the survey). Why?

    a. There are 25 students in the sample, so percentages should be multiples of 0.04%.

    b. There are 25 students in the sample, so percentages should be multiples of 4%.

    c. 18% of 25 students is 4.5 students, and you cannot sample a half of a student.

    d. Both A and C are correct.

    e. Both B and C are correct.

$$25 \times 0.18 = 4.5$$

$$\left.\begin{matrix} 4 \\ 4 \\ \vdots \\ 4 \end{matrix}\right\} 25$$

TOTAL 100

$$\frac{40-60}{60} = \frac{-2}{6} = -\frac{1}{3} = -0.333... \approx 33\%$$

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4. Which of the following statements do you think could possibly be true?

✗ a. Last year, 60 of the 80 residents in a neighborhood subscribed to the local newspaper, and this year, it is 40 residents who subscribe. This is a (50%) decrease.

Very possible

b. A company's annual profits increased by 110% over the last decade.

✗ ? c. A teacher brought 40 calculators to class, and 21% of them had dead batteries. $40 \times 0.21 = 8.4$

✗ d. The number of violent crimes in the city decreased by 112.46% last year. *100% is "all that can be"*

e. None of the above is true.

Slightly possible because we often round

5. The average wage of production workers (adjusted for the effects of inflation) was $11.08 an hour in 1981 and $10.35 an hour in 1991. In the decade of the 1980s, wages went down by about

    a. 73%.

$$\frac{10.35 - 11.08}{11.08} = -0.0658$$

    b. 7.3%.

    c. 7.0%.

    d. 6.6%.

$$\approx -6.58\%$$

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Answer Key

1. a

2. b

3. e

4. b

5. d