At a local car dealership one of the salespeople sells an average of 3.1 cars per week with a standard deviation of 1.1 cars. The dealership pays her $300 a week plus a commission of $250 for each car that she sells. What are the mean and standard deviation, respectively, of her total weekly pay?

(A) $1705.00, $605.00
(B) $1705.00, $275.00
(C) $1075.00, $775.00
(D) $1075.00, $302.50
(E) $1075.00, $275.00

Baccarat is a casino card game between a "player" and a "dealer" where bettors wager on which will have the higher hand. Let $Y$ represent the amount won or lost by the bettor on a single wager on the "dealer." The expected value of $Y$ is –\$1.06 and the standard deviation of $Y$ is \$92.72. If a bettor places 400 wagers on the "dealer" during the course of a gambling session, what is the approximate probability that the bettor ends up with a positive outcome, that is, makes money?

(A) 0

(B) 0.410

(C) 0.495

(D) 0.500

(E) 0.590

In the computation of a confidence interval, if the sample size is not changed but the confidence level is changed from 99% to 95%, you can expect

(A) an interval with the same width since the mean has not changed

(B) an interval with the same width since the sample size has not changed

(C) an interval that is wider

(D) an interval that is narrower

(E) The change cannot be determined from the information given

$X$ and $Y$ are independent random variables. $X$ is normally distributed with mean 100 and standard deviation 8. $Y$ is normally distributed with mean 96 and standard deviation 6. For randomly generated values of $X$ and $Y$, what is the probability that $X$ is greater than $Y$?

(A) 0.0401

(B) 0.6554

(C) 0.8273

(D) 0.9772

(E) 1

A statistics class took a random sample of students at the school to find the proportion of those who claimed to be vegetarians. This class found 12 out of the 150 students questioned were vegetarians. Another statistics class in another school took a similar random sample of the students at its school and found that 9 out of 90 claimed to be vegetarians. Which one of the following represents the approximate 90% confidence interval for the difference between the proportions of students of the two schools that would claim to be vegetarians?

(A) $.02 \pm 1.645\left(\frac{(.08)(.92)+(.10)(.9)}{\sqrt{150+90}}\right)$

(B) $.02 \pm 1.645\left(\frac{(.08)(.92)}{\sqrt{150}}+\frac{(.1)(.9)}{\sqrt{90}}\right)$

(C) $.02 \pm 1.645\left(\sqrt{\frac{(.08)(.92)}{150}+\frac{(.1)(.9)}{90}}\right)$

(D) $.02 \pm 1.645\left(\sqrt{\frac{(.08)(.92)+(.1)(.9)}{150+90}}\right)$

(E) $.02 \pm 1.645\left(\sqrt{\frac{(.08)}{150}+\frac{(.1)}{90}}\right)$

A study was conducted to determine if the proportion of cars in a given area that do not meet exhaust emission standards has changed from 10 years ago when it was 8%. A test of $H_0$: $p = 0.08$ against $H_A$: $p \neq 0.08$ was performed with a significance level of $\alpha = 0.05$. Given that the data showed that there was a significant difference in the proportion of cars not meeting emission standards now versus 10 years ago, which of the following statements is true?

a) The same conclusion would have been reached at the .01 level of significance
b) A 95% confidence interval on the same sample set of data would have contained .08
c) A 90% confidence interval on the same sample set of data would NOT have contained .08
d) If a 1-tail test was performed on the same sample set of data with Ha: P > .08 then the null hypothesis would not have been rejected