Given that z is a standard normal random variable, compute $P(z < -1.24)$.

Select one:

- a. 0.0885
- b. 0.0526
- c. 0.9236
- d. 0.8925
- e. 0.0764
- f. 0.9115
- g. 0.9474
- h. 0.1075 ✔

Let z be a standard normal random variable.
Compute $P(-2.24 < z < 2.24)$.

Select one:

○ a. 0.8530

○ b. 0.9750

○ c. 0.9484

○ d. 0.8968

○ e. 0.9929

○ f. 0.9858

◉ g. 0.9875 ✖

○ h. 0.9265

According to the Sleep Foundation, the average night's sleep is 6.80 hours. Assume the standard deviation is 0.50 hours and that the probability distribution is normal. What is the probability that a randomly selected person sleeps at most 6.10 hours?

Select one:

○ a. 0.0808 ✔

○ b. 0.9641

○ c. 0.8413

○ d. 0.0668

○ e. 0.0359

○ f. 0.1587

○ g. 0.9192

○ h. 0.9332

The correct answer is: 0.0808

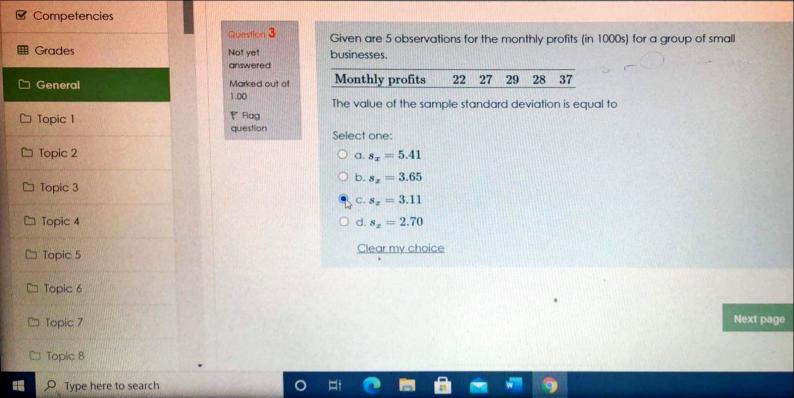| Class	Midpoint	Frequency
10 – 19	14.5	15
20 – 29	24.5	20
30 – 39	34.5	62
40 – 49	44.5	24

What is the sample variance?

Select one:

⊙ a. 82.01

○ b. 91.78

○ c. 92.55

○ d. 81.33

Clear my choice

The process of using sample statistics to make conclusions about population parameters is called

Select one:

○ a. population census

○ b. sample survey

- ☑ Competencies
- ⊞ Grades
- 🗀 General
- 🗀 Topic 1
- 🗀 Topic 2
- 🗀 Topic 3
- 🗀 Topic 4
- 🗀 Topic 5
- 🗀 Topic 6
- 🗀 Topic 7
- 🗀 Topic 8

Question 3

Not yet answered

Marked out of 1.00

⚑ Flag question

Given are 5 observations for the monthly profits (in 1000s) for a group of small businesses.

Monthly profits	22	27	29	28	37

The value of the sample standard deviation is equal to

Select one:

- a. $s_x = 5.41$
- b. $s_x = 3.65$
- ◉ c. $s_x = 3.11$
- d. $s_x = 2.70$

Clear my choice

Next page

The process of using sample statistics to make conclusions about population parameters is called

Select one:

○ a. population census

○ b. sample survey

◉ c. statistical inference

○ d. descriptive statistics

Clear my choice

3

In a certain population the first quartile was 3575, the second quartile was 4540, and third quartile was 6125. Which statement is false?

ed

d out of

Given are 5 observations for the annual salaries (in 1000s) for a group of marketing majors.

Annual salaries	34	45	39	28	47

The value of the sample mean is

Select one:

○ a. $\bar{x} = 34.6$

◉ b. $\bar{x} = 38.6$

○ c. $\bar{x} = 32.6$

○ d. $\bar{x} = 36.6$

Clear my choice

Given are 5 observations for the monthly profits (in 1000s) for a group of small businesses.

Monthly profits	22	27	29	28	32

The value of the sample standard deviation is equal to

Select one:

○ a. $s_x = 2.70$

○ b. $s_x = 3.65$

Question 1

Not yet answered

Marked out of 1.00

⚐ Flag question

Given are 5 observations for the monthly expenditure of (in 1000s) for a group of families.

Monthly expenditure	1	1.7	2	2.8

The value of the 53rd percentile is equal to

Select one:

○ a. 2.8

○ b. 1.7

○ c. 2

○ d. 1.5

○ b. 92.55

○ c. 91.78

○ d. 82.01

You are given the following frequency distribution of annua

Annual Salary	Frequency
0 – 24	5
25 – 49	10
50 – 74	15
75 – 99	20
100 – 124	50

Then, the percentage of people with annual income less than or equa to

Select one:
- ○ a. 50 %
- ○ b. 85 %
- ○ c. 70 %
- ● d. 30 %

Clear my choice

Given are 5 observations for the monthly profits (in 1000s) for a group of small

according to age. The table below indicates the numbers of people in the study according to their age (18-24, 25-45, 46+) and their preferred payment method (Cash, Credit Card).

	Cash	Credit Card
18 – 24	10	30
25 – 45	15	30
46+	25	20

Among the people who prefer the "Cash" payment method, what is the percentage of people in the age class "18-24"?

Select one:

○ a. 25 %

● b. 20 %

○ c. 30 %

○ d. 33.33 %

Clear my choice

The relationship between income x and expenditure y was estimated by the following regression equation.

$$\hat{y} = 1400 + 0.3x$$

If a person has income 2200, what is the predicted expenditure?

Select one:

○ a. 2300

○ b. 2060

○ c. 2240

○ d. 2450

Question ⓪

Not yet answered

Marked out of 1.00

⚑ Flag question

The monthly salaries of employees in a certain company were bell-shaped with mean 3400 and standard deviation 170. Which statement is false?

Select one:

⚪ a. The salary 4100 is an outlier.

⚪ b. The salary 3900 is an outlier.

🔘 c. The coefficient of variation is equal to 5%.

⚪ d. The salary 2300 is an outlier.

Clear my choice

≡

d. 2450

Question 3

Not yet answered

Marked out of 1.00

⚑ Flag question

The ages of employees in a certain company were bell-shaped with mean 44 and standard deviation 7. What is the percentage of employees whose ages are below 37?

Select one:

○ a. Approximately 16%

○ b. Approximately 95%

○ c. Approximately 81.5%

○ d. Approximately 27%

○ e. Approximately 84%

Next page

The strength of a linear relationship between two variables can be measured by the

Select one:

○ a. mean

● b. correlation coefficient

○ c. skewness

○ d. coefficient of variation

○ e. variance

Clear my choice

Question 1

Not yet
answered

Marked out of
1.00

Flag
question

Given are 4 observations for two variables, x and y.

x	1	3	5	6
y	20	12	20	7

The estimated regression equation is given by

Select one:

○ a. $\hat{y} = 4.14 + 2.83x$

○ b. $\hat{y} = 2.83 + 4.14x$

⦿ c. $\hat{y} = 20.66 - 1.58x$

○ d. $\hat{y} = -1.58 + 20.66x$

Clear my choice

The data given below were taken from a study about preferred payment methods according to age. The table below indicates the numbers of people in the study according to their age (18-24, 25-45, 46+) and their preferred payment method (Cash, Credit Card).

	Cash	Credit Card
18 – 24	10	30
25 – 45	15	30
46+	25	20

Among the people who are in the age class "18-24", what is the percentage of people who prefer the "Cash" payment method?

Select one:
- a. 20 %
- b. 30 %
- ● c. 25 %
- d. 33.33 %

Clear my choice

In a certain population the first quartile was 6575, the second quartile was 8540, and third quartile was 9125. Which statement is false?

Select one:

○ a. The salary 13000 is an outlier.

○ b. The salary 10000 is an outlier.

● c. The interquartile range is 2550.

○ d. The salary 2600 is an outlier.

Clear my choice

Consider the following frequency distribution.

Question 4

Not yet
answered

Marked out of
1.00

⚑ Flag
question

The process of using sample statistics to make conclusions about population parameters is called

Select one:

- ● a. statistical inference

- ○ b. population census

- ○ c. descriptive statistics

- ○ d. sample survey

Clear my choice

The variable specialization has the

Select one:

O a. ratio scale of measurement

O b. interval scale of measurement

O c. nominal scale of measurement

O d. ordinal scale of measurement

You are given the following frequency distribution of annual income (in 1000s).

Annual Salary	Frequency
0 – 24	50
25 – 49	20
50 – 74	15
75 – 99	10
100 – 124	5

Then,

Select one:

○ a. the histogram of the above distribution is symmetric

○ b. the histogram of the above distribution is skewed to the left

○ c. the histogram of the above distribution

Consider a binomial experiment with 4 trials and $p = 0.32$. Find $P(x = 3)$.

Select one:

○ a. 0.0891 ✔

○ b. 0.0963

○ c. 0.1038

○ d. 0.0822

The correct answer is: 0.0891

Question 6

Correct

Mark 1.00 out of 1.00

⚑ Flag question

Let z be a standard normal random variable. Find z if the area between 0 and z is 0.3554 and z is positive.

Select one:

○ a. 0.52

○ b. 1.14

○ c. 0.68

◉ d. 1.06 ✔

The correct answer is: 1.06

If A is an event such that $P(A) = 0.6902$. Find the probability of A complement.

Select one:

○ a. 0.6902

◉ b. 0.3098 ✔

○ c. 0.7904

○ d. 0.2096

The correct answer is: 0.3098

Question 3

Incorrect

Mark 0.00 out of 1.00

⚐ Flag question

Question 13

Correct

Mark 1.00 out of 1.00

⚑ Flag question

Consider a binomial experiment with 4 trials and $p = 0.34$. Find $E(x)$.

Select one:

- ○ a. 1.32
- ○ b. 1.28
- ○ c. 1.24
- ⦿ d. 1.36 ✔

The correct answer is: 1.36

If A and B are independent events such that $P(A) = 0.3100$ and $P(A \cap B) = 0.0806$. Find $P(B)$.

Select one:

- ○ a. 0.1300
- ○ b. 0.6200
- ○ c. 0.3100
- ● d. 0.2600 ✔

The correct answer is: 0.2600

Given that z is a standard normal random variable, compute $P(z < 1.24)$.

Select one:

- a. 0.9474
- b. 0.0764
- c. 0.0885
- ● d. 0.8925 ✔
- e. 0.9115
- f. 0.0526
- g. 0.9236
- h. 0.1075

The correct answer is: 0.8925

Consider the following probability distribution of the random variable x.

x	10	30	40	50
$f(x)$	0.20	0.12	?	0.37

Find $P(x = 40)$.

Select one:

- a. 0.31 ✔
- b. 0.27
- c. 0.21
- d. 0.54

The correct answer is: 0.31

Let z be a standard normal random variable. Find z if the area between 0 and z is 0.3554 and z is positive.

Select one:

- a. 0.52
- b. 1.14
- c. 0.68
- d. 1.06 ✔

The correct answer is: 1.06

Question 18

Correct

Mark 1.00 out of 1.00

⚑ Flag question

If A and B are independent events such that $P(A \mid B) = 0.1300$ and $P(A \cap B) = 0.0806$. Find $P(A)$.

Select one:

○ a. 0.1300 ✔

○ b. 0.3100

○ c. 0.2600

○ d. 0.6200

The correct answer is: 0.1300

In Kenya, 63 percent of the population use public transportation. In a sample of 10 individuals, what is the probability that exactly 5 individuals use public transportation?

Select one:

○ a. 0.0285

◉ b. 0.1734 ✔

○ c. 0.2461

○ d. 0.0849

The correct answer is: 0.1734