



# Quantitative Methods 1 – Extra Questions

Meeting 5



## Welcome To Success Formula Extra Questions

### What Is It?

This free set of custom questions gives you a clear taste of what to expect on the exam and helps you check if you are keeping up with the material. They are based on our Weekly Meetings and cover the key topics you need to know (slightly delayed since meetings start in Week 2). The difficulty of each question is shown in the corner by the number of lit Success Formula logos. Share, discuss, and have fun testing your knowledge with them! 😊

### How Does It Work?

Give the questions a go on your own! We are not giving the answers on purpose. Peeking would make it way too easy. Stuck or unsure? Come into into our WhatsApp group and discuss them with us. The link/QR is on the last slide if these questions were shared with you.

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## Exam Time!



### Question

Consider the below function. What is its domain?

$$f(x, y) = \frac{\sqrt{x - y}}{x^2 + y^2 - 1}$$

### Answers

- A.  $x \leq 0$  and  $y < 0$
- B.  $x \geq y$
- C.  $x \leq y$  and  $x^2 + y^2 = 1$
- D.  $x \geq y$  and  $x^2 + y^2 \neq 1$



## Exam Time!



### Question

Consider the following function. What is the partial elasticity with respect to  $x$ ?

$$f(x, y) = \sqrt{x} + \frac{15y}{\ln(2y)}$$

### Answers

- A.  $\sqrt{x}$
- B.  $\ln(2y)$
- C.  $15y$
- D.  $0.5$



## Exam Time!



### Question

We took a sample of 100 random SBE students to determine what the average monthly spending was. The sample average turned out to be 1,450€ with a standard deviation of 25€. Based on this, we want to estimate a 90% confidence interval.

### Answers

- A.  $1.662 \pm 1,450(25)$
  - B.  $1,450 \pm 1,662\left(\frac{25}{\sqrt{100}}\right)$
  - C.  $1,450 \pm 1,662\left(\frac{25}{100}\right)$
  - D.  $1.450 \pm 1,645\left(\frac{25}{\sqrt{100}}\right)$
-



## Exam Time!



### Question

Success Formula wants to determine how many students they need to sample in order to get a desired 99% confidence interval about the average price students are willing to pay for a crash course. Based on previous information that we still believe to be accurate, the standard deviation of the price  $s = 20\text{€}$ . We want to obtain an estimate within  $\pm 5\text{€}$  of the true mean given the level of confidence.

### Answers

- A. 105
  - B. 106
  - C. 107
  - D. 108
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## Exam Time!



### Question

Aspartame is a sweetener that is used in low-calories beverages as a sugar replacement. Consumers are concerned that there are significant health risks involved in consumption. Scientists have speculated that aspartame is safe when less than 1:1000 people suffer from mild side effects like nausea. A random study found that 1:2000 people suffered from nausea after aspartame consumption. Which of the following is an appropriate alternative hypothesis that addresses their concern when doing a hypothesis test?

### Answers

- A.  $H_A: \mu < 0.001$
- B.  $H_A: \mu > 0.001$
- C.  $H_A: \mu < 0.0005$
- D.  $H_A: \mu > 0.0005$



## Want More?

### How?

Check out our Exam Training! It follows a similar approach but a tutor guides you through new questions and solves them step by step together with you and other students.

### QR for Exam Trainings



### Available for

Exam Training QM1 (Maths)

Exam Training QM1 (Stats)



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