

# **PRMIA**

**8007 Exam**

**Mathematical Foundations of Risk Measurement – 2015 Edition**

**Questions & Answers  
Demo**

# Version: 4.0

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**Question: 1**

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For a quadratic equation, which of the following is FALSE?

- A. If the discriminant is negative, there are no real solutions
- B. If the discriminant is zero, there is only one solution
- C. If the discriminant is negative there are two different real solutions
- D. If the discriminant is positive there are two different real solutions

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**Answer: C**

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**Question: 2**

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The natural logarithm of  $x$  is:

- A. the inverse function of  $\exp(x)$
- B.  $\log(e)$
- C. always greater than  $x$ , for  $x > 0$
- D. 46

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**Answer: A**

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**Question: 3**

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When a number is written with a fraction as an exponent, such as  $a^{b/c}$ , which of the following is the correct computation?

- A. Take the square-root of 75 and raise it to the 5th power
- B. Divide 75 by 2, then raise it to the 5th power
- C. Multiply 75 by 2.5
- D. Square 75, then take the fifth root of it

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**Answer: A**

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**Question: 4**

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You invest \$2m in a bank savings account with a constant interest rate of 5% p.

- a. What is the value of the investment in 2 years time if interest is compounded quarterly?

- A. \$2,208,972
- B. \$2,210,342
- C. \$2,205,000
- D. None of them

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**Answer: A**

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**Question: 5**

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Solve the simultaneous linear equations:  $x + 2y - 2 = 0$  and  $y - 3x = 8$

- A.  $x = 1, y = 0.5$
- B.  $x = -2, y = 2$
- C.  $x = 2, y = 0$
- D. None of the above

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**Answer: B**

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