

MA121 — Quiz The First with Solutions

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This quiz is mostly intended as a diagnostic. Do the best you can, but don't worry too much.

If you are using a calculator, please record its brand and model here: Nope.

1. How many tests will we have in this class, not counting the final exam?

Four tests, plus many quizzes like this one.

2. How many main subdivisions are in the American Mathematical Society's "Mathematics Subject Classification"?

About sixty-five.

3. What is the attendance policy in this class?

Attendance is required unless you talk to me in advance or have an iron-clad alibi.

4. Multiply out $(x-1)(x-2)(x+3)$ and write it out in the form $a_0 + a_1x + a_2x^2 + a_3x^3$.

$6 - 7x + 0x^2 + x^3$. Omitting $0x^2$ is also fine; better, even.

5. For which value(s) of θ between -2π and 2π is it true that $\sin(\theta) = 1$?

$\sin(\theta) = 1$ when $\theta = \pi/2$ and any other value that differs from that by an integer multiple of 2π . So in the range that was specified, we have $\sin(\theta) = 1$ if $\theta = \pi/2$ and if $\theta = -3\pi/2$.

6. For which values of t is it true that $t^2 + 10t = 39$?

$t = 3$ and $t = -13$. Either factor (harder) or use the quadratic formula (easy) or do it with the calculator (I don't know how, but maybe you do).

7. What is $\ln(9) - 2\ln(3)$ equal to?

It's equal to zero, because $\ln(9) = \ln(3 \cdot 3) = \ln(3) + \ln(3)$.

(By General Quiz Theory, the answer had to be a fairly simple number; since we're subtracting, the natural simple answer is zero!)

8. When people say that something is "growing exponentially," what do they mean?

What they *mean* is that it's growing very fast. It's rarely the case that it's growing fast enough to be actually modeled by an exponential function.

9. Do you prefer Bach or Beethoven?

Bach by a mile.

10. Who won the 2008 World Cup?

Italy won the 2006 World Cup, but there's no such thing as a "2008 World Cup" — the next one is in 2010. And, of course, "the World Cup" always refers to the Football World Cup (the sport Americans call "soccer").