

AP Calculus AB - Differential Equations and Slope Fields - Quiz

Common Core AP CALC AB 7.1, AP CALC AB 7.2, AP CALC AB 7.3, AP CALC AB 7.4, AP CALC AB 7.5, AP CALC AB 7.6, AP CALC AB 7.7 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Test yourself on differential equations, slope fields, Euler's method, separation of variables and exponential growth and decay with 10 multiple-choice questions. Pick one answer for each question, then read the explanation to see why it is right and which common mistake the other choices represent.

AP Calculus AB · Common Core State Standards: **AP CALC AB 7.1, AP CALC AB 7.2, AP CALC AB 7.3, AP CALC AB 7.4, AP CALC AB 7.5, AP CALC AB 7.6, AP CALC AB 7.7**

Remember

- Verify a solution by substituting y and y' into the equation.
- A slope field shows dy/dx at grid points; solution curves follow the segments.
- Euler: $y_{\text{new}} = y_{\text{old}} + h \cdot (dy/dx \text{ at the old point})$, $x_{\text{new}} = x_{\text{old}} + h$.
- $dy/dt = ky$ has the general solution $y = Ce^{(kt)}$; growth if k is positive, decay if k is negative.