

AP Calculus AB - Linearization and L'Hopital's Rule - Quiz

Common Core AP CALC AB 4.5, AP CALC AB 4.6, AP CALC AB 4.7 · maths-pdf.fr/en/

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

Test yourself on local linear approximation, over- and underestimates from concavity, and L'Hopital's Rule for indeterminate limits 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 4.5, AP CALC AB 4.6, AP CALC AB 4.7**

Remember

- Linearization: $L(x) = f(a) + f'(a)(x - a)$, the tangent line at $x = a$.
- Concave up (f'' positive): the tangent line is below the curve, so the estimate is too low.
- Concave down (f'' negative): the tangent line is above the curve, so the estimate is too high.
- L'Hôpital: for $0/0$ or ∞/∞ , $\lim f/g = \lim f'/g'$ (not the quotient rule).