

Concept Review

1. True False In order for $\int_a^b f(x)dx = \int_a^c f(x)dx + \int_c^b f(x)dx$, we need $a \leq c \leq b$.
2. True False The area underneath a PDF must be equal to 1.
3. True False The second derivative can tell us if the midpoint rule gives an over/under estimate.
4. True False The crown of calculus is the fundamental theorem of calculus.
5. True False It is always good to u sub first in order to simplify the integral.
6. True False Simpson's method will approximate cubics exactly.
7. True False Simpson's method will approximate piecewise linear functions exactly.
8. True False When solving a separable equation, if we get that $ydy = xdx$, then the solution is $y = x + C$.
9. True False We can compare an integral to $\int_1^\infty 1/\sqrt{x}dx$ in order to show it converges.
10. True False The bars of a histogram can have a height greater than 1.
11. True False For a continuous PDF $f(x)$. The value $f(0)$ represents the probability of choosing 0.