

## Integration Techniques

### Pset 8

Due November 5 (4 points each)

- (1) Notes N.5:6
- (2) Page 249: 36b-e (Use only Theorem 2 and Theorem 3 from Course Notes M and justify each equality.)
- (3) Page 220: 7, 11(a) (2 pts each)
- (4) Page 223:20
- (5) Page 224:34
- (6) Notes N.5:7

Bonus: Let  $f$  be a continuous function. Prove that

$$\int_0^x \frac{f(u)(x-u)^n}{n!} du = \int_0^x \left( \int_0^{u_n} \left( \cdots \left( \int_0^{u_1} f(t) dt \right) du_1 \right) \cdots \right) du_n.$$

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