

## Lecture 32: Worksheet

### Trig Substitutions

- 1 Integrate  $\sqrt{1+x^2}$ . Hint. Use  $x = \tan(u)$ .
- 2 Integrate  $\sqrt{1-x^2}$ . Hint. Use  $x = \cos(u)$ .
- 3 Integrate  $\sqrt{x^2-1}$ . Hint. Use  $x = 1/\cos(u)$ .
- 4 Integrate  $\frac{\arccos(x)}{1-x^2}$ . Hint. Use  $x = \cos(u)$ .