# LATEX WORKSHEET

CCNY AWM

## 1. Section Title

1.1. **Subsection Title.** Some plain text. *Some italic text.* **Some bold text.**

a) The first item.

b) The second item.

- The first item.
- The second item

| | col1 | col2 |
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| row1 | cell1 | cell2 |
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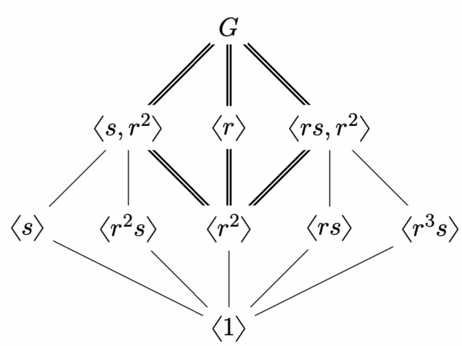


Figure 1. Lattice of quotient group $D_8/\langle r^2 \rangle$ highlighted on top of the lattice of $D_8$.

$$\begin{tikzcd} \mathcal{B} \arrow[r, "\text{incl}"] \arrow[dr, "\varphi"'] & \mathcal{F}\mathrm{r}(\mathcal{B}) \arrow[d, "\Phi"] \\ & M \end{tikzcd}$$

FIGURE 2. The universal property of free modules. (This diagram commutes!)

**Theorem 1.1** (Theorem Name)**.** *Theorem statement.*

*Proof.* A Proof. □

**Definition** (Term)**.** Definition statement.

Here's an inline math equation: $f : X \to Y$.

$$\begin{gathered} g : X \to Y \\ h : X \to Y \end{gathered}$$

$$\begin{aligned} (a+b)+(c+d) &= ((a+b)+c)+d \\ &= (a+(b+c))+d \\ &= a+((b+c)+d) \\ &= a+(b+(c+d)) \end{aligned}$$

$$||a+b|| \leq ||a|| + ||b|| \tag{1}$$

$$\begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$f(x) = \begin{cases} 1, & \text{x rational} \\ 0, & \text{x irrational} \end{cases}$$

$$det(A) = \sum_{\sigma \in S_n} \mathrm{sgn}(\sigma) \left( \prod_{i=1}^{n} \alpha_{i,\sigma(i)} \right)$$

Here's an article citation. [1] Here's a book citation with a specific section. [2, §1.1] Here's a website citation. [3]

## References


[1] A.Y. Okounkov A.M. Vershik. "A New Approach to the Representation Theory of the Symmetric Groups. II." In: *J Math Sci* 131 (2005), pp. 5471–5494.

[2] Emily Riehl. *Category Theory in Context*. Dover Publications, 2016. ISBN: 978-0486809038. URL: `https://math.jhu.edu/~eriehl/context/`.

[3] Wikipedia. *Tensor product of modules*. URL: `https://en.wikipedia.org/wiki/Tensor_product_of_modules#Modules_over_commutative_rings` (visited on 12/22/2021).