AMS JOURNAL SAMPLE

AUTHOR ONE AND AUTHOR TWO

This paper is dedicated to our advisors.

ABSTRACT. This paper is a sample prepared to illustrate the use of the American Mathematical Society's LaTeX document class amsart and publication-specific variants of that class for AMS-LaTeX version 2.

THIS IS AN UNNUMBERED FIRST-LEVEL SECTION HEAD

This is an example of an unnumbered first-level heading.

THIS IS A SPECIAL SECTION HEAD

This is an example of a special section head[1].

1. THIS IS A NUMBERED FIRST-LEVEL SECTION HEAD

This is an example of a numbered first-level heading.

1.1. **This is a numbered second-level section head.** This is an example of a numbered second-level heading.

This is an unnumbered second-level section head. This is an example of an unnumbered second-level heading.

1.1.1. *This is a numbered third-level section head.* This is an example of a numbered third-level heading.

This is an unnumbered third-level section head. This is an example of an unnumbered third-level heading.

Lemma 1.1. *Let $f, g \in A(X)$ and let E, F be cozero sets in X.*
(1) *If f is E-regular and $F \subseteq E$, then f is F-regular.*
(2) *If f is E-regular and F-regular, then f is $E \cup F$-regular.*
(3) *If $f(x) \geq c > 0$ for all $x \in E$, then f is E-regular.*

The following is an example of a proof.

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[1]Here is an example of a footnote. Notice that this footnote text is running on so that it can stand as an example of how a footnote with separate paragraphs should be written.

And here is the beginning of the second paragraph.

Proof. Set $j(\nu) = \max(I \backslash a(\nu)) - 1$. Then we have

$$\sum_{i \notin a(\nu)} t_i \sim t_{j(\nu)+1} = \prod_{j=0}^{j(\nu)} (t_{j+1}/t_j).$$

Hence we have

$$\begin{aligned} \prod_\nu \Big(\sum_{i \notin a(\nu)} t_i \Big)^{|a(\nu-1)|-|a(\nu)|} &\sim \prod_\nu \prod_{j=0}^{j(\nu)} (t_{j+1}/t_j)^{|a(\nu-1)|-|a(\nu)|} \\ &= \prod_{j \geq 0} (t_{j+1}/t_j)^{\sum_{j(\nu) \geq j} (|a(\nu-1)|-|a(\nu)|)}. \end{aligned} \tag{1.1}$$

By definition, we have $a(\nu(j)) \supset c(j)$. Hence, $|c(j)| = n - j$ implies (5.4). If $c(j) \notin a$, $a(\nu(j))c(j)$ and hence we have (5.5). □

> This is an example of an 'extract'. The magnetization M_0 of the Ising model is related to the local state probability $P(a) : M_0 = P(1) - P(-1)$. The equivalences are shown in Table **??**.

TABLE 1

	$-\infty$	$+\infty$
$f_+(x,k)$	$e^{\sqrt{-1}kx} + s_{12}(k)e^{-\sqrt{-1}kx}$	$s_{11}(k)e^{\sqrt{-1}kx}$
$f_-(x,k)$	$s_{22}(k)e^{-\sqrt{-1}kx}$	$e^{-\sqrt{-1}kx} + s_{21}(k)e^{\sqrt{-1}kx}$

Definition 1.2. This is an example of a 'definition' element. For $f \in A(X)$, we define

$$\mathcal{Z}(f) = \{E \in Z[X] : f \text{ is } E^c\text{-regular}\}. \tag{1.2}$$

Remark 1.3. This is an example of a 'remark' element. For $f \in A(X)$, we define

$$\mathcal{Z}(f) = \{E \in Z[X] : f \text{ is } E^c\text{-regular}\}. \tag{1.3}$$

Example 1.4. This is an example of an 'example' element. For $f \in A(X)$, we define

$$\mathcal{Z}(f) = \{E \in Z[X] : f \text{ is } E^c\text{-regular}\}. \tag{1.4}$$

Exercise 1.5. This is an example of the `xca` environment. This environment is used for exercises which occur within a section.

The following is an example of a numbered list.

(1) First item. In the case where in G there is a sequence of subgroups

$$G = G_0, G_1, G_2, \ldots, G_k = e$$

such that each is an invariant subgroup of G_i.

(2) Second item. Its action on an arbitrary element $X = \lambda^\alpha X_\alpha$ has the form

$$[e^\alpha X_\alpha, X] = e^\alpha \lambda^\beta [X_\alpha X_\beta] = e^\alpha c^\gamma_{\alpha\beta} \lambda^\beta X_\gamma, \tag{1.5}$$

FIGURE 1. This is an example of a figure caption with text.

FIGURE 2

(a) First subitem.

$$-2\psi_2(e) = c_{\alpha\gamma}^{\delta} c_{\beta\delta}^{\gamma} e^{\alpha} e^{\beta}.$$

(b) Second subitem.

(i) First subsubitem. In the case where in G there is a sequence of subgroups

$$G = G_0, G_1, G_2, \ldots, G_k = e$$

such that each subgroup G_{i+1} is an invariant subgroup of G_i and each quotient group G_{i+1}/G_i is abelian, the group G is called *solvable*.

(ii) Second subsubitem.

(c) Third subitem.

(3) Third item.

Here is an example of a cite. See [**?**].

Theorem 1.6. *This is an example of a theorem.*

Theorem 1.7 (Marcus Theorem)**.** *This is an example of a theorem with a parenthetical note in the heading.*

2. Some more list types

This is an example of a bulleted list.

- $\mathcal{J}_g$ of dimension $3g - 3$;
- $\mathcal{E}_g^2 = \{$Pryms of double covers of $C = \square$ with normalization of C hyperelliptic of genus $g - 1\}$ of dimension $2g$;
- $\mathcal{E}_{1,g-1}^2 = \{$Pryms of double covers of $C = \square_{P^1}^{H}$ with H hyperelliptic of genus $g - 2\}$ of dimension $2g - 1$;
- $\mathcal{P}_{t,g-t}^2$ for $2 \leq t \leq g/2 = \{$Pryms of double covers of $C = \square_{C''}^{C'}$ with $g(C') = t - 1$ and $g(C'') = g - t - 1\}$ of dimension $3g - 4$.

This is an example of a 'description' list.

Zero case: $\rho(\Phi) = \{0\}$.

Rational case: $\rho(\Phi) \neq \{0\}$ and $\rho(\Phi)$ is contained in a line through 0 with rational slope.

Irrational case: $\rho(\Phi) \neq \{0\}$ and $\rho(\Phi)$ is contained in a line through 0 with irrational slope.

References

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2. R. Brown, *On a conjecture of Dirichlet*, Amer. Math. Soc., Providence, RI, 1993.
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