Title of the paper

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Abstract

Abstract not exceeding 250 words, which can be read independently of the paper.

Key words: Dominating set, Connectivity

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1 Introduction

Theorem 1.1. Consider this paper as instructions for authors.

Proof: Follows directly. ∎

Each section, including the introduction should be numbered, with formulas numbered in the right margin.

$$\mathbb{N} = \{1, 2, 3, \ldots\} \tag{1}$$

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$$\mathbb{N}_2 = \{2, 4, 6 \ldots\} \tag{2}$$

$$\mathbb{Z} = \mathbb{N} \cup -\mathbb{N} \cup \{0\}$$

Theorem 1.2. For given sets we have $\mathbb{N}_2 \subset \mathbb{N} \subset \mathbb{Z}$.

Proof: Since there holds

$$\begin{aligned} 1 &= \sin^2 x + \cos^2 x \\ &= -e^{i\pi}, \end{aligned} \tag{3}$$

the theorem does not follow from the previous result.

∎

Proposition 1.3. Add a proposition like this

Lemma 1.4. Add a lemma if necessary

Corollary 1.5. Add a Corollary if necessary

2 Main Results

Theorem 2.1. Consider this paper as instructions for authors.

Remark 2.2. IJAGT have No-Page Limit for Research Papers

Theorem 2.3. Consider this paper as instructions for authors.

Theorem 2.4. For any connected graph G, $\gamma_r(G) + \kappa(G) = 2n - 6$ if and only if G is isomorphic to any one of the following graphs (i) $K_{1,6}$ (ii) $K_{3,2}$ (iii) K_6 (iv) $B(2,1)$ (v) $K_3(2,0,0)$ (vi) $C_4(2)$ (vii) $C_4(3)$ $(viii)$ P_5 (ix) $C_3(1,1,0)$ (x) $K_5 - Y$ where Y is a matching in K_5 (xi) $K_6 - M$ where M is a perfect matching in K_6.

Proof: Let $\gamma_r(G) + \kappa(G) = 2n - 6$. Then there are five cases to consider (i) $\gamma_r(G) = n$ and $\kappa(G) = n-6$ (ii) $\gamma_r(G) = n-2$ and $\kappa(G) = n-4$ (iii) $\gamma_r(G) = n-3$ and $\kappa(G) = n-3$ (iv) $\gamma_r(G) = n-4$ and $\kappa(G) = n-2$ (v) $\gamma_r(G) = n-5$ and $\kappa(G) = n-1$.

Case 1. $\gamma_r(G) = n$ and $\kappa(G) = n - 6$

Then G is a star which gives $\kappa(G) = 1 = n-6$ and hence $n = 7$. Then G is isomorphic to $K_{1,6}$.

Case 2. $\gamma_r(G) = n - 2$ and $\kappa(G) = n - 4$

Then $n-4 \leq \delta(G)$. If $\delta(G) = n-1$ then G is a complete graph which is a contradiction to $\kappa(G) = n - 4$.

If $\delta(G) = n - 2$ then G is isomorphic to $K_n - Y$ where Y is a matching in G. Hence $\gamma_r(G) \leq 2$. Then $n \leq 4$ which is a contradiction to $\kappa(G) = n - 4$. Suppose $\delta(G) = n - 3$. Let $X = \{v_1, v_2, \cdots, v_{n-4}\}$ be a minimum vertex cut of G and let $V - X = \{x_1, x_2, x_3, x_4\}$.

If $\langle V - X\rangle$ contains at least one isolated vertex then $\delta(G) \leq n - 4$ which is a contradiction. Hence $\langle V - X\rangle$ is isomorphic to $K_2 \cup K_2$. Also every vertex of $V - X$ is adjacent to all the vertices of X. Then X is a restrained dominating set of G. Hence $\gamma_r(G) \leq n - 4$ which is a contradiction. Thus $\delta(G) = n - 4$.

Sub Case 2.1. $\langle V - X\rangle = \overline{K_4}$

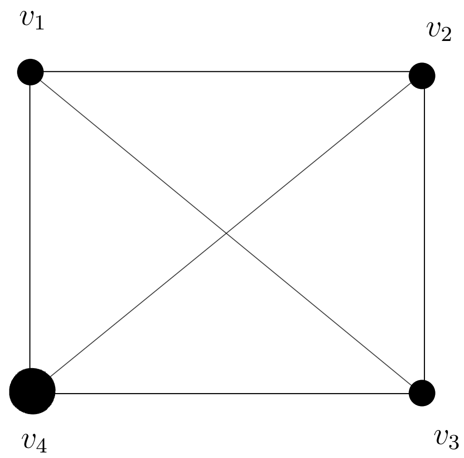
Then every vertex of $V - X$ is adjacent to all the vertices in X. Suppose $E(\langle X\rangle) = \phi$. Then $|X| \leq 4$ and hence G is isomorphic to $K_{s,4}, 1 \leq s \leq 4$. But $\gamma_r(G) + \kappa(G) \neq 2n - 6$.

Suppose $E(\langle X\rangle) \neq \phi$. If any one of the vertex in X say v_1 is adjacent to all the vertices in X and hence $\gamma_r(G) = 1$. Then $n = 3$ which is impossible. Hence every vertex in X is not adjacent to at least one vertex in X. Hence $\gamma_r(G) = 2$. Then $n = 4$ which is also impossible.

Sub Case 2.2. $\langle V - X\rangle = P_3 \cup K_1$

∎

Drawings should be prepared as Postscript files. Here is an example:
The link for download the software is https://sourceforge.net/projects/texcad/



Complete graph with 4 vertices

3 Title of the third section

References (see [1], or [2, 3]) should be listed alphabetically and numbered consecutively at the end of manuscript.

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