

**Announcement: On the Ramsey Numbers**  
 $R(4, 6)$ ,  $R(5, 6)$  and  $R(3, 12)$

Geoffrey Exoo

Department of Mathematics and Computer Science  
Indiana State University  
Terre Haute, IN 47809

**Abstract.** Contructions have been completed which improve the lower bounds for  $R(4, 6)$ ,  $R(5, 6)$  and  $R(3, 12)$ .

New lower bounds for the classical Ramsey number  $R(4, 6)$ ,  $R(5, 6)$  and  $R(3, 12)$  have been established. The new bound for  $R(4, 6)$  improves that given in [4], the new bound for  $R(5, 6)$  improves that given in [3], whereas the new bound for  $R(3, 12)$  improves the one established in [1]. The best upper bound for these three numbers are 43 for  $R(4, 6)$  [5], 94 for  $R(5, 6)$  [7] and 60 for  $R(3, 12)$  [6]. The techniques used were described in [2].

**Theorem.**

$$R(4, 6) \geq 35$$

$$R(5, 6) \geq 58$$

$$R(3, 12) \geq 51$$

Further details can be found in a technical report available from the author. Computer representation of the graphs can also be obtained in a variety of formats.

**References**

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