



**MEPHAM GROUP**

# **PUZZLE PACK**

**Killer Sudoku**

**Tough**

**March**

**Solutions**

**First published 2011 by Crosswords Limited**

[www.sudoku.org.uk](http://www.sudoku.org.uk)

Copyright © Crosswords Limited 2011

The right of Crosswords Ltd to be identified as the author of this work has been asserted by them in accordance with the Copyright, Designs and Patents Act 1988.

All rights reserved.

**No part of this publication may be reproduced**, stored in or introduced into a retrieval system, or transmitted, in any form, or by any means (electronic, mechanical, photocopying, recording or otherwise) without the prior written permission of the publisher. Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

**Purchase more *Mepham Group Puzzle Packs*** online only at [sudoku.org.uk](http://sudoku.org.uk)

# Introduction

We're sure that we don't need to tell you that sudoku puzzles seem to be everywhere you look nowadays. And of course we have a lot to do with that, because our puzzles are syndicated in newspapers like the *Los Angeles Times*, *The Daily Telegraph* and many others throughout the world. Over three million books featuring our sudoku have now been sold in almost every language and every country.

However, many of the puzzles available are not ours, and maybe you've noticed the difference, especially with some sudoku published on the web and in cheap books.

As a professional puzzle compilers, we've always striven for the highest quality in our sudoku. For example, we have always guaranteed that every puzzle has a unique solution; something that is not always true about many of the puzzles that don't bear our name.

A huge amount of work has gone into ensuring that you will experience the most satisfying solving experience with a *Mepham Group* sudoku. If you start a gentle sudoku, you'll expect to solve it fairly quickly, and we have ensured that there will be a smooth path to a solution in this grade of puzzle. However, if you enjoy a real mental tussle and are looking for something that will keep you occupied for an hour, or maybe more, then our diabolical sudoku will provide just what you need.

These puzzle packs have been carefully assembled using accurately graded puzzles that carry our guarantee of satisfaction. We're confident that you will gain hours of enjoyment from these puzzles no matter what level of difficulty you have chosen.

Have fun!

01

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 3 | 2 | 1 | 7 | 4 | 8 | 9 | 5 |
| 1 | 5 | 9 | 2 | 3 | 8 | 7 | 4 | 6 |
| 8 | 4 | 7 | 5 | 6 | 9 | 3 | 2 | 1 |
| 3 | 2 | 8 | 6 | 9 | 5 | 4 | 1 | 7 |
| 7 | 9 | 1 | 8 | 4 | 3 | 6 | 5 | 2 |
| 4 | 6 | 5 | 7 | 2 | 1 | 9 | 8 | 3 |
| 2 | 1 | 6 | 4 | 8 | 7 | 5 | 3 | 9 |
| 5 | 8 | 3 | 9 | 1 | 6 | 2 | 7 | 4 |
| 9 | 7 | 4 | 3 | 5 | 2 | 1 | 6 | 8 |

02

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 5 | 6 | 3 | 4 | 7 | 2 | 1 | 8 |
| 2 | 3 | 7 | 8 | 5 | 1 | 4 | 6 | 9 |
| 4 | 8 | 1 | 9 | 6 | 2 | 5 | 3 | 7 |
| 5 | 4 | 3 | 6 | 2 | 9 | 8 | 7 | 1 |
| 7 | 6 | 8 | 5 | 1 | 4 | 9 | 2 | 3 |
| 1 | 2 | 9 | 7 | 8 | 3 | 6 | 5 | 4 |
| 8 | 7 | 5 | 4 | 3 | 6 | 1 | 9 | 2 |
| 6 | 9 | 2 | 1 | 7 | 8 | 3 | 4 | 5 |
| 3 | 1 | 4 | 2 | 9 | 5 | 7 | 8 | 6 |

03

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 2 | 6 | 9 | 8 | 4 | 5 | 3 | 1 | 7 |
| 8 | 1 | 5 | 7 | 3 | 9 | 6 | 2 | 4 |
| 4 | 7 | 3 | 2 | 1 | 6 | 8 | 9 | 5 |
| 9 | 8 | 1 | 6 | 7 | 4 | 5 | 3 | 2 |
| 3 | 4 | 7 | 5 | 9 | 2 | 1 | 6 | 8 |
| 5 | 2 | 6 | 3 | 8 | 1 | 4 | 7 | 9 |
| 7 | 3 | 4 | 1 | 2 | 8 | 9 | 5 | 6 |
| 1 | 5 | 8 | 9 | 6 | 7 | 2 | 4 | 3 |
| 6 | 9 | 2 | 4 | 5 | 3 | 7 | 8 | 1 |

04

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 2 | 5 | 7 | 6 | 4 | 9 | 3 | 8 | 1 |
| 8 | 6 | 4 | 1 | 3 | 2 | 7 | 9 | 5 |
| 3 | 1 | 9 | 5 | 7 | 8 | 6 | 2 | 4 |
| 5 | 2 | 6 | 7 | 8 | 3 | 4 | 1 | 9 |
| 7 | 3 | 8 | 4 | 9 | 1 | 5 | 6 | 2 |
| 4 | 9 | 1 | 2 | 6 | 5 | 8 | 7 | 3 |
| 9 | 8 | 2 | 3 | 5 | 7 | 1 | 4 | 6 |
| 6 | 7 | 3 | 9 | 1 | 4 | 2 | 5 | 8 |
| 1 | 4 | 5 | 8 | 2 | 6 | 9 | 3 | 7 |

05

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 8 | 3 | 9 | 7 | 5 | 4 | 6 |
| 9 | 4 | 7 | 5 | 8 | 6 | 2 | 1 | 3 |
| 6 | 3 | 5 | 1 | 2 | 4 | 8 | 9 | 7 |
| 8 | 5 | 1 | 4 | 3 | 2 | 7 | 6 | 9 |
| 3 | 7 | 6 | 9 | 5 | 8 | 4 | 2 | 1 |
| 2 | 9 | 4 | 7 | 6 | 1 | 3 | 8 | 5 |
| 5 | 1 | 2 | 8 | 7 | 9 | 6 | 3 | 4 |
| 7 | 6 | 9 | 2 | 4 | 3 | 1 | 5 | 8 |
| 4 | 8 | 3 | 6 | 1 | 5 | 9 | 7 | 2 |

06

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1 | 6 | 7 | 5 | 3 | 8 | 9 | 2 | 4 |
| 4 | 5 | 2 | 1 | 7 | 9 | 3 | 6 | 8 |
| 8 | 9 | 3 | 6 | 4 | 2 | 1 | 5 | 7 |
| 2 | 8 | 1 | 9 | 5 | 7 | 4 | 3 | 6 |
| 6 | 7 | 4 | 2 | 1 | 3 | 8 | 9 | 5 |
| 9 | 3 | 5 | 4 | 8 | 6 | 7 | 1 | 2 |
| 5 | 1 | 8 | 3 | 2 | 4 | 6 | 7 | 9 |
| 3 | 4 | 9 | 7 | 6 | 5 | 2 | 8 | 1 |
| 7 | 2 | 6 | 8 | 9 | 1 | 5 | 4 | 3 |

07

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 7 | 1 | 2 | 9 | 3 | 6 | 8 | 5 | 4 |
| 3 | 6 | 5 | 4 | 8 | 7 | 2 | 1 | 9 |
| 4 | 9 | 8 | 5 | 1 | 2 | 3 | 6 | 7 |
| 1 | 4 | 3 | 2 | 7 | 5 | 6 | 9 | 8 |
| 8 | 2 | 7 | 1 | 6 | 9 | 5 | 4 | 3 |
| 6 | 5 | 9 | 8 | 4 | 3 | 1 | 7 | 2 |
| 9 | 3 | 6 | 7 | 2 | 1 | 4 | 8 | 5 |
| 2 | 7 | 4 | 6 | 5 | 8 | 9 | 3 | 1 |
| 5 | 8 | 1 | 3 | 9 | 4 | 7 | 2 | 6 |

08

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 4 | 1 | 9 | 3 | 5 | 7 | 2 | 8 |
| 7 | 3 | 2 | 8 | 1 | 4 | 9 | 5 | 6 |
| 9 | 5 | 8 | 2 | 6 | 7 | 1 | 4 | 3 |
| 2 | 1 | 4 | 5 | 9 | 6 | 8 | 3 | 7 |
| 3 | 8 | 7 | 1 | 4 | 2 | 6 | 9 | 5 |
| 5 | 9 | 6 | 7 | 8 | 3 | 4 | 1 | 2 |
| 4 | 2 | 9 | 3 | 7 | 8 | 5 | 6 | 1 |
| 8 | 6 | 3 | 4 | 5 | 1 | 2 | 7 | 9 |
| 1 | 7 | 5 | 6 | 2 | 9 | 3 | 8 | 4 |

09

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 5 | 1 | 6 | 9 | 3 | 4 | 2 | 7 | 8 |
| 8 | 4 | 2 | 5 | 1 | 7 | 3 | 6 | 9 |
| 3 | 9 | 7 | 6 | 2 | 8 | 4 | 5 | 1 |
| 7 | 8 | 5 | 3 | 4 | 1 | 6 | 9 | 2 |
| 4 | 2 | 3 | 7 | 6 | 9 | 1 | 8 | 5 |
| 1 | 6 | 9 | 8 | 5 | 2 | 7 | 3 | 4 |
| 6 | 5 | 1 | 2 | 8 | 3 | 9 | 4 | 7 |
| 9 | 3 | 4 | 1 | 7 | 5 | 8 | 2 | 6 |
| 2 | 7 | 8 | 4 | 9 | 6 | 5 | 1 | 3 |

10

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 8 | 1 | 5 | 6 | 2 | 7 | 3 | 4 |
| 5 | 3 | 2 | 7 | 4 | 8 | 9 | 6 | 1 |
| 4 | 6 | 7 | 1 | 3 | 9 | 8 | 2 | 5 |
| 1 | 7 | 5 | 2 | 8 | 6 | 3 | 4 | 9 |
| 6 | 9 | 3 | 4 | 5 | 7 | 2 | 1 | 8 |
| 2 | 4 | 8 | 9 | 1 | 3 | 6 | 5 | 7 |
| 7 | 5 | 6 | 8 | 2 | 4 | 1 | 9 | 3 |
| 8 | 2 | 4 | 3 | 9 | 1 | 5 | 7 | 6 |
| 3 | 1 | 9 | 6 | 7 | 5 | 4 | 8 | 2 |

11

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 3 | 9 | 5 | 1 | 7 | 6 | 8 |
| 6 | 9 | 7 | 8 | 3 | 2 | 4 | 5 | 1 |
| 8 | 5 | 1 | 7 | 4 | 6 | 2 | 3 | 9 |
| 4 | 7 | 5 | 3 | 8 | 9 | 1 | 2 | 6 |
| 3 | 1 | 8 | 2 | 6 | 4 | 5 | 9 | 7 |
| 9 | 6 | 2 | 1 | 7 | 5 | 3 | 8 | 4 |
| 7 | 2 | 4 | 6 | 9 | 3 | 8 | 1 | 5 |
| 5 | 3 | 6 | 4 | 1 | 8 | 9 | 7 | 2 |
| 1 | 8 | 9 | 5 | 2 | 7 | 6 | 4 | 3 |

12

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 4 | 8 | 1 | 9 | 3 | 5 | 7 | 2 |
| 1 | 2 | 3 | 5 | 7 | 6 | 8 | 4 | 9 |
| 9 | 7 | 5 | 8 | 2 | 4 | 1 | 6 | 3 |
| 7 | 1 | 9 | 2 | 4 | 5 | 3 | 8 | 6 |
| 8 | 3 | 2 | 7 | 6 | 1 | 9 | 5 | 4 |
| 5 | 6 | 4 | 3 | 8 | 9 | 2 | 1 | 7 |
| 3 | 8 | 6 | 4 | 5 | 2 | 7 | 9 | 1 |
| 4 | 5 | 1 | 9 | 3 | 7 | 6 | 2 | 8 |
| 2 | 9 | 7 | 6 | 1 | 8 | 4 | 3 | 5 |

13

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 9 | 3 | 5 | 1 | 7 | 6 | 8 |
| 7 | 5 | 6 | 2 | 8 | 4 | 3 | 1 | 9 |
| 3 | 1 | 8 | 6 | 7 | 9 | 5 | 4 | 2 |
| 1 | 6 | 5 | 7 | 3 | 8 | 9 | 2 | 4 |
| 4 | 3 | 7 | 9 | 2 | 6 | 1 | 8 | 5 |
| 8 | 9 | 2 | 1 | 4 | 5 | 6 | 3 | 7 |
| 5 | 2 | 1 | 8 | 6 | 7 | 4 | 9 | 3 |
| 9 | 8 | 4 | 5 | 1 | 3 | 2 | 7 | 6 |
| 6 | 7 | 3 | 4 | 9 | 2 | 8 | 5 | 1 |

14

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 4 | 6 | 7 | 2 | 1 | 8 | 3 | 5 | 9 |
| 5 | 2 | 3 | 7 | 9 | 6 | 1 | 8 | 4 |
| 9 | 8 | 1 | 3 | 4 | 5 | 7 | 2 | 6 |
| 6 | 1 | 8 | 4 | 5 | 7 | 9 | 3 | 2 |
| 7 | 9 | 5 | 8 | 3 | 2 | 6 | 4 | 1 |
| 3 | 4 | 2 | 9 | 6 | 1 | 8 | 7 | 5 |
| 8 | 3 | 4 | 6 | 2 | 9 | 5 | 1 | 7 |
| 2 | 5 | 6 | 1 | 7 | 3 | 4 | 9 | 8 |
| 1 | 7 | 9 | 5 | 8 | 4 | 2 | 6 | 3 |

15

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 5 | 7 | 3 | 6 | 1 | 2 | 8 | 4 |
| 2 | 1 | 6 | 4 | 8 | 9 | 3 | 5 | 7 |
| 8 | 4 | 3 | 5 | 7 | 2 | 1 | 9 | 6 |
| 1 | 2 | 9 | 7 | 4 | 6 | 5 | 3 | 8 |
| 3 | 7 | 4 | 8 | 1 | 5 | 9 | 6 | 2 |
| 6 | 8 | 5 | 2 | 9 | 3 | 4 | 7 | 1 |
| 5 | 3 | 1 | 6 | 2 | 7 | 8 | 4 | 9 |
| 7 | 9 | 8 | 1 | 3 | 4 | 6 | 2 | 5 |
| 4 | 6 | 2 | 9 | 5 | 8 | 7 | 1 | 3 |

16

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 4 | 8 | 6 | 2 | 3 | 5 | 9 | 7 | 1 |
| 3 | 1 | 2 | 7 | 9 | 6 | 8 | 4 | 5 |
| 9 | 7 | 5 | 4 | 8 | 1 | 6 | 2 | 3 |
| 6 | 5 | 9 | 1 | 2 | 3 | 4 | 8 | 7 |
| 2 | 3 | 7 | 8 | 6 | 4 | 5 | 1 | 9 |
| 1 | 4 | 8 | 9 | 5 | 7 | 2 | 3 | 6 |
| 5 | 6 | 4 | 3 | 1 | 2 | 7 | 9 | 8 |
| 8 | 2 | 1 | 6 | 7 | 9 | 3 | 5 | 4 |
| 7 | 9 | 3 | 5 | 4 | 8 | 1 | 6 | 2 |

17

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 7 | 2 | 4 | 9 | 8 | 1 | 5 | 3 |
| 1 | 3 | 8 | 2 | 5 | 6 | 9 | 4 | 7 |
| 4 | 5 | 9 | 3 | 7 | 1 | 2 | 8 | 6 |
| 8 | 4 | 6 | 1 | 2 | 9 | 3 | 7 | 5 |
| 3 | 9 | 1 | 7 | 8 | 5 | 6 | 2 | 4 |
| 7 | 2 | 5 | 6 | 4 | 3 | 8 | 9 | 1 |
| 5 | 8 | 3 | 9 | 1 | 4 | 7 | 6 | 2 |
| 9 | 6 | 7 | 5 | 3 | 2 | 4 | 1 | 8 |
| 2 | 1 | 4 | 8 | 6 | 7 | 5 | 3 | 9 |

18

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 1 | 2 | 6 | 7 | 5 | 9 | 8 |
| 9 | 8 | 6 | 5 | 3 | 4 | 7 | 1 | 2 |
| 7 | 2 | 5 | 8 | 9 | 1 | 3 | 4 | 6 |
| 8 | 5 | 2 | 6 | 7 | 9 | 1 | 3 | 4 |
| 6 | 1 | 3 | 4 | 5 | 8 | 2 | 7 | 9 |
| 4 | 7 | 9 | 1 | 2 | 3 | 6 | 8 | 5 |
| 1 | 6 | 8 | 7 | 4 | 5 | 9 | 2 | 3 |
| 2 | 3 | 4 | 9 | 1 | 6 | 8 | 5 | 7 |
| 5 | 9 | 7 | 3 | 8 | 2 | 4 | 6 | 1 |

19

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 4 | 6 | 1 | 9 | 8 | 3 | 5 | 2 | 7 |
| 2 | 3 | 8 | 1 | 7 | 5 | 9 | 4 | 6 |
| 7 | 5 | 9 | 6 | 4 | 2 | 1 | 3 | 8 |
| 9 | 1 | 4 | 2 | 6 | 8 | 7 | 5 | 3 |
| 8 | 2 | 5 | 3 | 1 | 7 | 4 | 6 | 9 |
| 3 | 7 | 6 | 4 | 5 | 9 | 8 | 1 | 2 |
| 6 | 4 | 3 | 7 | 9 | 1 | 2 | 8 | 5 |
| 5 | 9 | 2 | 8 | 3 | 4 | 6 | 7 | 1 |
| 1 | 8 | 7 | 5 | 2 | 6 | 3 | 9 | 4 |

20

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 5 | 1 | 6 | 9 | 3 | 8 | 4 | 7 | 2 |
| 7 | 3 | 8 | 2 | 6 | 4 | 1 | 9 | 5 |
| 2 | 4 | 9 | 1 | 7 | 5 | 3 | 8 | 6 |
| 9 | 6 | 5 | 7 | 8 | 3 | 2 | 4 | 1 |
| 4 | 8 | 1 | 5 | 9 | 2 | 7 | 6 | 3 |
| 3 | 7 | 2 | 6 | 4 | 1 | 8 | 5 | 9 |
| 8 | 5 | 7 | 3 | 2 | 9 | 6 | 1 | 4 |
| 6 | 9 | 3 | 4 | 1 | 7 | 5 | 2 | 8 |
| 1 | 2 | 4 | 8 | 5 | 6 | 9 | 3 | 7 |

21

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 7 | 1 | 6 | 2 | 5 | 8 | 9 | 3 | 4 |
| 9 | 4 | 5 | 1 | 3 | 7 | 2 | 8 | 6 |
| 8 | 3 | 2 | 4 | 6 | 9 | 1 | 5 | 7 |
| 3 | 8 | 7 | 5 | 4 | 2 | 6 | 9 | 1 |
| 5 | 2 | 4 | 6 | 9 | 1 | 8 | 7 | 3 |
| 1 | 6 | 9 | 7 | 8 | 3 | 4 | 2 | 5 |
| 2 | 5 | 8 | 3 | 1 | 6 | 7 | 4 | 9 |
| 4 | 9 | 1 | 8 | 7 | 5 | 3 | 6 | 2 |
| 6 | 7 | 3 | 9 | 2 | 4 | 5 | 1 | 8 |

22

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 2 | 3 | 9 | 1 | 7 | 5 | 8 | 4 |
| 9 | 4 | 5 | 2 | 8 | 3 | 1 | 6 | 7 |
| 1 | 8 | 7 | 5 | 6 | 4 | 2 | 9 | 3 |
| 8 | 7 | 9 | 4 | 2 | 6 | 3 | 1 | 5 |
| 2 | 6 | 4 | 3 | 5 | 1 | 8 | 7 | 9 |
| 5 | 3 | 1 | 7 | 9 | 8 | 6 | 4 | 2 |
| 7 | 9 | 6 | 8 | 3 | 2 | 4 | 5 | 1 |
| 3 | 5 | 8 | 1 | 4 | 9 | 7 | 2 | 6 |
| 4 | 1 | 2 | 6 | 7 | 5 | 9 | 3 | 8 |

23

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 4 | 9 | 6 | 3 | 5 | 1 | 7 | 8 | 2 |
| 3 | 5 | 2 | 6 | 8 | 7 | 9 | 4 | 1 |
| 8 | 1 | 7 | 2 | 4 | 9 | 3 | 5 | 6 |
| 5 | 3 | 8 | 1 | 2 | 4 | 6 | 7 | 9 |
| 9 | 6 | 1 | 7 | 3 | 5 | 8 | 2 | 4 |
| 7 | 2 | 4 | 8 | 9 | 6 | 5 | 1 | 3 |
| 2 | 4 | 3 | 9 | 7 | 8 | 1 | 6 | 5 |
| 1 | 8 | 5 | 4 | 6 | 3 | 2 | 9 | 7 |
| 6 | 7 | 9 | 5 | 1 | 2 | 4 | 3 | 8 |

24

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 4 | 9 | 1 | 5 | 2 | 8 | 6 | 3 | 7 |
| 8 | 2 | 3 | 6 | 7 | 1 | 4 | 9 | 5 |
| 5 | 7 | 6 | 3 | 9 | 4 | 2 | 1 | 8 |
| 7 | 6 | 8 | 1 | 4 | 2 | 9 | 5 | 3 |
| 3 | 1 | 2 | 9 | 5 | 6 | 7 | 8 | 4 |
| 9 | 4 | 5 | 7 | 8 | 3 | 1 | 2 | 6 |
| 1 | 5 | 4 | 2 | 3 | 7 | 8 | 6 | 9 |
| 6 | 8 | 9 | 4 | 1 | 5 | 3 | 7 | 2 |
| 2 | 3 | 7 | 8 | 6 | 9 | 5 | 4 | 1 |

25

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 3 | 2 | 9 | 4 | 8 | 7 | 1 | 5 | 6 |
| 5 | 1 | 8 | 6 | 3 | 2 | 9 | 7 | 4 |
| 7 | 6 | 4 | 9 | 1 | 5 | 8 | 3 | 2 |
| 2 | 9 | 3 | 1 | 4 | 6 | 7 | 8 | 5 |
| 6 | 7 | 1 | 5 | 2 | 8 | 3 | 4 | 9 |
| 8 | 4 | 5 | 7 | 9 | 3 | 2 | 6 | 1 |
| 9 | 8 | 7 | 2 | 6 | 4 | 5 | 1 | 3 |
| 1 | 3 | 6 | 8 | 5 | 9 | 4 | 2 | 7 |
| 4 | 5 | 2 | 3 | 7 | 1 | 6 | 9 | 8 |

26

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 8 | 2 | 3 | 9 | 1 | 6 | 4 | 7 | 5 |
| 4 | 7 | 6 | 2 | 3 | 5 | 8 | 9 | 1 |
| 1 | 9 | 5 | 7 | 8 | 4 | 6 | 2 | 3 |
| 9 | 4 | 2 | 5 | 6 | 7 | 1 | 3 | 8 |
| 6 | 5 | 8 | 3 | 9 | 1 | 2 | 4 | 7 |
| 7 | 3 | 1 | 4 | 2 | 8 | 9 | 5 | 6 |
| 2 | 6 | 4 | 8 | 5 | 3 | 7 | 1 | 9 |
| 5 | 8 | 7 | 1 | 4 | 9 | 3 | 6 | 2 |
| 3 | 1 | 9 | 6 | 7 | 2 | 5 | 8 | 4 |

27

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 5 | 3 | 7 | 2 | 4 | 9 | 8 | 1 | 6 |
| 9 | 4 | 8 | 3 | 6 | 1 | 5 | 2 | 7 |
| 1 | 6 | 2 | 5 | 8 | 7 | 3 | 9 | 4 |
| 7 | 1 | 9 | 8 | 3 | 2 | 4 | 6 | 5 |
| 3 | 8 | 4 | 1 | 5 | 6 | 2 | 7 | 9 |
| 2 | 5 | 6 | 7 | 9 | 4 | 1 | 3 | 8 |
| 6 | 2 | 1 | 4 | 7 | 8 | 9 | 5 | 3 |
| 8 | 9 | 3 | 6 | 2 | 5 | 7 | 4 | 1 |
| 4 | 7 | 5 | 9 | 1 | 3 | 6 | 8 | 2 |

28

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 6 | 8 | 7 | 5 | 1 | 2 | 4 | 3 |
| 2 | 3 | 5 | 8 | 4 | 9 | 7 | 6 | 1 |
| 4 | 7 | 1 | 6 | 3 | 2 | 5 | 8 | 9 |
| 3 | 9 | 7 | 4 | 2 | 5 | 6 | 1 | 8 |
| 5 | 8 | 4 | 1 | 6 | 7 | 3 | 9 | 2 |
| 1 | 2 | 6 | 9 | 8 | 3 | 4 | 7 | 5 |
| 8 | 4 | 2 | 5 | 9 | 6 | 1 | 3 | 7 |
| 6 | 1 | 3 | 2 | 7 | 8 | 9 | 5 | 4 |
| 7 | 5 | 9 | 3 | 1 | 4 | 8 | 2 | 6 |

29

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 2 | 9 | 1 | 5 | 8 | 3 | 6 | 4 | 7 |
| 4 | 6 | 5 | 9 | 7 | 2 | 8 | 1 | 3 |
| 3 | 7 | 8 | 4 | 6 | 1 | 9 | 2 | 5 |
| 9 | 2 | 7 | 3 | 1 | 6 | 5 | 8 | 4 |
| 1 | 8 | 4 | 7 | 9 | 5 | 3 | 6 | 2 |
| 5 | 3 | 6 | 2 | 4 | 8 | 1 | 7 | 9 |
| 8 | 5 | 3 | 1 | 2 | 4 | 7 | 9 | 6 |
| 7 | 1 | 2 | 6 | 3 | 9 | 4 | 5 | 8 |
| 6 | 4 | 9 | 8 | 5 | 7 | 2 | 3 | 1 |

30

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 7 | 8 | 1 | 5 | 2 | 9 | 6 | 4 | 3 |
| 3 | 5 | 2 | 1 | 6 | 4 | 8 | 7 | 9 |
| 4 | 6 | 9 | 3 | 8 | 7 | 5 | 2 | 1 |
| 5 | 4 | 3 | 8 | 1 | 6 | 7 | 9 | 2 |
| 8 | 2 | 7 | 4 | 9 | 3 | 1 | 5 | 6 |
| 9 | 1 | 6 | 2 | 7 | 5 | 3 | 8 | 4 |
| 2 | 7 | 8 | 6 | 4 | 1 | 9 | 3 | 5 |
| 1 | 3 | 4 | 9 | 5 | 8 | 2 | 6 | 7 |
| 6 | 9 | 5 | 7 | 3 | 2 | 4 | 1 | 8 |



31

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 7 | 1 | 8 | 9 | 5 | 3 | 4 | 6 | 2 |
| 9 | 3 | 2 | 7 | 4 | 6 | 5 | 1 | 8 |
| 5 | 6 | 4 | 1 | 8 | 2 | 7 | 3 | 9 |
| 1 | 2 | 9 | 5 | 7 | 4 | 6 | 8 | 3 |
| 4 | 7 | 6 | 3 | 1 | 8 | 2 | 9 | 5 |
| 3 | 8 | 5 | 2 | 6 | 9 | 1 | 4 | 7 |
| 8 | 4 | 7 | 6 | 3 | 5 | 9 | 2 | 1 |
| 2 | 5 | 3 | 4 | 9 | 1 | 8 | 7 | 6 |
| 6 | 9 | 1 | 8 | 2 | 7 | 3 | 5 | 4 |

32

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 7 | 4 | 8 | 9 | 6 | 3 | 1 | 5 | 2 |
| 9 | 1 | 5 | 2 | 8 | 4 | 7 | 3 | 6 |
| 3 | 2 | 6 | 1 | 5 | 7 | 8 | 4 | 9 |
| 8 | 5 | 4 | 6 | 9 | 1 | 3 | 2 | 7 |
| 6 | 3 | 1 | 7 | 4 | 2 | 9 | 8 | 5 |
| 2 | 9 | 7 | 8 | 3 | 5 | 6 | 1 | 4 |
| 4 | 6 | 3 | 5 | 1 | 9 | 2 | 7 | 8 |
| 1 | 8 | 2 | 4 | 7 | 6 | 5 | 9 | 3 |
| 5 | 7 | 9 | 3 | 2 | 8 | 4 | 6 | 1 |

33

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 4 | 1 | 8 | 5 | 6 | 3 | 7 | 2 |
| 2 | 5 | 8 | 4 | 7 | 3 | 9 | 1 | 6 |
| 7 | 3 | 6 | 2 | 9 | 1 | 8 | 5 | 4 |
| 8 | 6 | 9 | 5 | 3 | 7 | 4 | 2 | 1 |
| 3 | 7 | 5 | 1 | 4 | 2 | 6 | 9 | 8 |
| 4 | 1 | 2 | 9 | 6 | 8 | 7 | 3 | 5 |
| 6 | 8 | 3 | 7 | 1 | 5 | 2 | 4 | 9 |
| 5 | 9 | 7 | 6 | 2 | 4 | 1 | 8 | 3 |
| 1 | 2 | 4 | 3 | 8 | 9 | 5 | 6 | 7 |

34

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 8 | 7 | 5 | 4 | 2 | 1 | 9 | 3 | 6 |
| 9 | 6 | 3 | 7 | 5 | 8 | 4 | 1 | 2 |
| 4 | 1 | 2 | 9 | 6 | 3 | 8 | 5 | 7 |
| 6 | 5 | 4 | 1 | 3 | 7 | 2 | 9 | 8 |
| 7 | 9 | 1 | 5 | 8 | 2 | 3 | 6 | 4 |
| 2 | 3 | 8 | 6 | 9 | 4 | 5 | 7 | 1 |
| 1 | 8 | 7 | 3 | 4 | 5 | 6 | 2 | 9 |
| 3 | 4 | 6 | 2 | 1 | 9 | 7 | 8 | 5 |
| 5 | 2 | 9 | 8 | 7 | 6 | 1 | 4 | 3 |

35

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 5 | 4 | 2 | 7 | 1 | 3 | 6 | 9 | 8 |
| 8 | 9 | 7 | 4 | 2 | 6 | 5 | 3 | 1 |
| 3 | 1 | 6 | 8 | 9 | 5 | 2 | 4 | 7 |
| 9 | 5 | 3 | 1 | 7 | 2 | 4 | 8 | 6 |
| 4 | 7 | 8 | 6 | 5 | 9 | 1 | 2 | 3 |
| 2 | 6 | 1 | 3 | 8 | 4 | 7 | 5 | 9 |
| 7 | 3 | 9 | 2 | 4 | 1 | 8 | 6 | 5 |
| 1 | 2 | 5 | 9 | 6 | 8 | 3 | 7 | 4 |
| 6 | 8 | 4 | 5 | 3 | 7 | 9 | 1 | 2 |

36

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 3 | 1 | 9 | 4 | 8 | 2 | 5 | 7 |
| 4 | 9 | 2 | 5 | 7 | 3 | 8 | 6 | 1 |
| 5 | 8 | 7 | 1 | 6 | 2 | 4 | 3 | 9 |
| 8 | 6 | 4 | 3 | 1 | 7 | 5 | 9 | 2 |
| 7 | 5 | 9 | 2 | 8 | 6 | 1 | 4 | 3 |
| 1 | 2 | 3 | 4 | 5 | 9 | 7 | 8 | 6 |
| 3 | 4 | 8 | 7 | 9 | 1 | 6 | 2 | 5 |
| 2 | 7 | 5 | 6 | 3 | 4 | 9 | 1 | 8 |
| 9 | 1 | 6 | 8 | 2 | 5 | 3 | 7 | 4 |

37

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 8 | 6 | 5 | 7 | 9 | 3 |
| 9 | 8 | 6 | 2 | 7 | 3 | 1 | 4 | 5 |
| 7 | 3 | 5 | 1 | 9 | 4 | 6 | 8 | 2 |
| 3 | 6 | 2 | 5 | 4 | 7 | 8 | 1 | 9 |
| 8 | 7 | 9 | 6 | 2 | 1 | 5 | 3 | 4 |
| 5 | 4 | 1 | 9 | 3 | 8 | 2 | 6 | 7 |
| 4 | 1 | 8 | 3 | 5 | 2 | 9 | 7 | 6 |
| 2 | 9 | 3 | 7 | 1 | 6 | 4 | 5 | 8 |
| 6 | 5 | 7 | 4 | 8 | 9 | 3 | 2 | 1 |

38

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 5 | 1 | 2 | 9 | 3 | 7 | 8 | 4 | 6 |
| 8 | 9 | 7 | 5 | 4 | 6 | 2 | 1 | 3 |
| 6 | 3 | 4 | 1 | 2 | 8 | 7 | 5 | 9 |
| 9 | 6 | 3 | 4 | 7 | 1 | 5 | 8 | 2 |
| 7 | 8 | 5 | 6 | 9 | 2 | 1 | 3 | 4 |
| 2 | 4 | 1 | 8 | 5 | 3 | 6 | 9 | 7 |
| 3 | 5 | 8 | 7 | 6 | 9 | 4 | 2 | 1 |
| 4 | 2 | 6 | 3 | 1 | 5 | 9 | 7 | 8 |
| 1 | 7 | 9 | 2 | 8 | 4 | 3 | 6 | 5 |

39

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 3 | 5 | 9 | 4 | 6 | 2 | 8 | 7 | 1 |
| 1 | 8 | 6 | 3 | 7 | 5 | 9 | 4 | 2 |
| 7 | 2 | 4 | 8 | 1 | 9 | 3 | 5 | 6 |
| 4 | 6 | 8 | 1 | 2 | 3 | 5 | 9 | 7 |
| 9 | 3 | 7 | 5 | 4 | 6 | 2 | 1 | 8 |
| 5 | 1 | 2 | 7 | 9 | 8 | 6 | 3 | 4 |
| 8 | 4 | 3 | 6 | 5 | 1 | 7 | 2 | 9 |
| 2 | 7 | 5 | 9 | 8 | 4 | 1 | 6 | 3 |
| 6 | 9 | 1 | 2 | 3 | 7 | 4 | 8 | 5 |

40

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 6 | 8 | 2 | 5 | 4 | 7 | 3 | 1 |
| 3 | 5 | 7 | 1 | 9 | 8 | 2 | 6 | 4 |
| 2 | 4 | 1 | 7 | 3 | 6 | 5 | 8 | 9 |
| 4 | 8 | 3 | 5 | 1 | 2 | 9 | 7 | 6 |
| 6 | 1 | 2 | 9 | 4 | 7 | 3 | 5 | 8 |
| 5 | 7 | 9 | 8 | 6 | 3 | 4 | 1 | 2 |
| 8 | 2 | 4 | 3 | 7 | 1 | 6 | 9 | 5 |
| 1 | 3 | 5 | 6 | 2 | 9 | 8 | 4 | 7 |
| 7 | 9 | 6 | 4 | 8 | 5 | 1 | 2 | 3 |

41

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 8 | 5 | 1 | 7 | 9 | 4 | 6 | 3 | 2 |
| 7 | 3 | 6 | 1 | 8 | 2 | 5 | 4 | 9 |
| 9 | 2 | 4 | 5 | 3 | 6 | 7 | 1 | 8 |
| 2 | 4 | 9 | 3 | 5 | 8 | 1 | 6 | 7 |
| 5 | 6 | 7 | 2 | 1 | 9 | 3 | 8 | 4 |
| 3 | 1 | 8 | 6 | 4 | 7 | 9 | 2 | 5 |
| 6 | 7 | 5 | 4 | 2 | 3 | 8 | 9 | 1 |
| 1 | 9 | 2 | 8 | 6 | 5 | 4 | 7 | 3 |
| 4 | 8 | 3 | 9 | 7 | 1 | 2 | 5 | 6 |

42

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 8 | 7 | 3 | 9 | 5 | 2 | 4 | 1 |
| 2 | 9 | 1 | 4 | 7 | 6 | 8 | 5 | 3 |
| 3 | 5 | 4 | 8 | 2 | 1 | 7 | 9 | 6 |
| 8 | 7 | 3 | 6 | 5 | 2 | 9 | 1 | 4 |
| 1 | 2 | 9 | 7 | 4 | 3 | 5 | 6 | 8 |
| 5 | 4 | 6 | 9 | 1 | 8 | 3 | 7 | 2 |
| 9 | 6 | 2 | 5 | 3 | 4 | 1 | 8 | 7 |
| 4 | 3 | 5 | 1 | 8 | 7 | 6 | 2 | 9 |
| 7 | 1 | 8 | 2 | 6 | 9 | 4 | 3 | 5 |

43

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 4 | 7 | 2 | 8 | 5 | 1 | 9 | 3 | 6 |
| 1 | 6 | 3 | 9 | 4 | 2 | 5 | 8 | 7 |
| 5 | 9 | 8 | 7 | 3 | 6 | 4 | 2 | 1 |
| 6 | 3 | 4 | 2 | 1 | 7 | 8 | 5 | 9 |
| 8 | 5 | 7 | 3 | 6 | 9 | 2 | 1 | 4 |
| 9 | 2 | 1 | 5 | 8 | 4 | 7 | 6 | 3 |
| 2 | 8 | 9 | 6 | 7 | 3 | 1 | 4 | 5 |
| 3 | 4 | 5 | 1 | 9 | 8 | 6 | 7 | 2 |
| 7 | 1 | 6 | 4 | 2 | 5 | 3 | 9 | 8 |

44

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 9 | 5 | 2 | 6 | 7 | 8 | 3 |
| 6 | 5 | 8 | 3 | 4 | 7 | 1 | 9 | 2 |
| 3 | 7 | 2 | 9 | 1 | 8 | 6 | 5 | 4 |
| 5 | 3 | 1 | 8 | 7 | 4 | 2 | 6 | 9 |
| 8 | 6 | 4 | 2 | 9 | 3 | 5 | 1 | 7 |
| 2 | 9 | 7 | 1 | 6 | 5 | 3 | 4 | 8 |
| 4 | 8 | 6 | 7 | 3 | 1 | 9 | 2 | 5 |
| 7 | 2 | 5 | 6 | 8 | 9 | 4 | 3 | 1 |
| 9 | 1 | 3 | 4 | 5 | 2 | 8 | 7 | 6 |

45

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 5 | 6 | 3 | 1 | 8 | 9 | 2 | 4 | 7 |
| 1 | 2 | 4 | 7 | 3 | 5 | 9 | 8 | 6 |
| 7 | 8 | 9 | 6 | 2 | 4 | 5 | 3 | 1 |
| 4 | 9 | 2 | 3 | 6 | 7 | 1 | 5 | 8 |
| 3 | 7 | 5 | 4 | 1 | 8 | 6 | 2 | 9 |
| 8 | 1 | 6 | 5 | 9 | 2 | 4 | 7 | 3 |
| 9 | 4 | 8 | 2 | 7 | 1 | 3 | 6 | 5 |
| 2 | 3 | 1 | 8 | 5 | 6 | 7 | 9 | 4 |
| 6 | 5 | 7 | 9 | 4 | 3 | 8 | 1 | 2 |

46

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 5 | 2 | 7 | 9 | 8 | 1 | 6 | 4 | 3 |
| 3 | 1 | 4 | 6 | 7 | 5 | 2 | 8 | 9 |
| 8 | 6 | 9 | 3 | 4 | 2 | 5 | 7 | 1 |
| 9 | 4 | 8 | 5 | 1 | 6 | 3 | 2 | 7 |
| 7 | 3 | 1 | 4 | 2 | 8 | 9 | 6 | 5 |
| 6 | 5 | 2 | 7 | 9 | 3 | 4 | 1 | 8 |
| 2 | 8 | 3 | 1 | 6 | 9 | 7 | 5 | 4 |
| 4 | 9 | 6 | 8 | 5 | 7 | 1 | 3 | 2 |
| 1 | 7 | 5 | 2 | 3 | 4 | 8 | 9 | 6 |

47

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 7 | 4 | 2 | 9 | 5 | 3 | 8 | 1 |
| 8 | 3 | 9 | 6 | 7 | 1 | 4 | 2 | 5 |
| 1 | 2 | 5 | 4 | 3 | 8 | 9 | 6 | 7 |
| 2 | 5 | 3 | 8 | 4 | 6 | 7 | 1 | 9 |
| 7 | 8 | 6 | 3 | 1 | 9 | 2 | 5 | 4 |
| 9 | 4 | 1 | 7 | 5 | 2 | 8 | 3 | 6 |
| 5 | 1 | 2 | 9 | 8 | 7 | 6 | 4 | 3 |
| 3 | 6 | 7 | 5 | 2 | 4 | 1 | 9 | 8 |
| 4 | 9 | 8 | 1 | 6 | 3 | 5 | 7 | 2 |

48

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 1 | 3 | 8 | 4 | 5 | 2 | 7 | 6 |
| 7 | 4 | 6 | 3 | 2 | 9 | 1 | 8 | 5 |
| 2 | 5 | 8 | 1 | 6 | 7 | 4 | 9 | 3 |
| 5 | 8 | 2 | 9 | 7 | 1 | 3 | 6 | 4 |
| 1 | 3 | 7 | 4 | 8 | 6 | 5 | 2 | 9 |
| 6 | 9 | 4 | 5 | 3 | 2 | 7 | 1 | 8 |
| 8 | 2 | 9 | 7 | 5 | 3 | 6 | 4 | 1 |
| 4 | 6 | 5 | 2 | 1 | 8 | 9 | 3 | 7 |
| 3 | 7 | 1 | 6 | 9 | 4 | 8 | 5 | 2 |

49

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 6 | 7 | 3 | 2 | 5 | 1 | 4 | 8 | 9 |
| 8 | 2 | 4 | 6 | 9 | 7 | 3 | 5 | 1 |
| 1 | 9 | 5 | 8 | 3 | 4 | 6 | 2 | 7 |
| 5 | 6 | 2 | 4 | 7 | 8 | 1 | 9 | 3 |
| 7 | 1 | 9 | 5 | 6 | 3 | 8 | 4 | 2 |
| 3 | 4 | 8 | 9 | 1 | 2 | 5 | 7 | 6 |
| 4 | 3 | 1 | 7 | 2 | 5 | 9 | 6 | 8 |
| 9 | 8 | 7 | 3 | 4 | 6 | 2 | 1 | 5 |
| 2 | 5 | 6 | 1 | 8 | 9 | 7 | 3 | 4 |

50

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 9 | 6 | 1 | 5 | 2 | 8 | 3 | 7 | 4 |
| 2 | 4 | 7 | 3 | 6 | 9 | 8 | 1 | 5 |
| 8 | 5 | 3 | 4 | 7 | 1 | 2 | 6 | 9 |
| 5 | 3 | 9 | 1 | 8 | 6 | 7 | 4 | 2 |
| 4 | 1 | 8 | 2 | 5 | 7 | 9 | 3 | 6 |
| 6 | 7 | 2 | 9 | 3 | 4 | 1 | 5 | 8 |
| 3 | 2 | 4 | 7 | 9 | 5 | 6 | 8 | 1 |
| 1 | 9 | 6 | 8 | 4 | 3 | 5 | 2 | 7 |
| 7 | 8 | 5 | 6 | 1 | 2 | 4 | 9 | 3 |