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About this book

The middle-years mathematics curriculum has changed in the last few years. Maths teaching techniques have begun to evolve; basic skill drills are receiving less emphasis, while technology and problem-solving strategies are receiving more emphasis.

How can *The Middle-Years Mathematician* help the middle-years teacher? Since the teacher continues to be accountable for marks, this book begins with a terrific new way to review rational numbers. These activities are geared to the active nature of middle-years students. Puzzles, games and cooperative learning activities are presented. They may be used as review activities, lesson starters or simply to enhance a specific lesson.

The second portion of the book was specifically designed to incorporate algebra concepts into the middle-years curriculum. While any middle-years teacher will enjoy completing these activities with students, it is an invaluable resource for the middle-years teacher who teaches a year seven or eight introductory algebra class. Learning how to work with integers, expressions and equations in middle-years has a huge impact on future mathematical success. The authors are experienced middle-years educators who have used all of these readiness activities with their own middle-years students.

The final chapter of the book focuses on geometry. The activities were designed to help students develop their spatial abilities and their understanding of polygons, lines, angles and symmetry. Students will also receive an introduction to tessellations and fractals. These two topics are especially popular among students in the middle years.

The authors realise the amount of time it takes for teachers to develop games and activities for a classroom and have created this book so that the busy teacher (with access to a photocopier, index cards and scissors) can use these activities immediately. After copying the activity or making a few cards, the teacher is ready to incorporate into any existing maths curriculum challenging activities that are in line with current standards.

SHADY NUMBERS

Numbers . . . they are shady characters. You have to keep an eye on them! In the grid below, a secret message is hidden from your view. If you shade in all of the 'shady' odd numerals, you will be able to decode the message!



18	3	16	14	26	48	24	88	46	72	92
5	2	17	28	30	98	5	50	86	90	47
13	20	23	4	24	52	3	20	10	66	13
9	32	27	40	6	100	39	54	30	56	1
7	22	11	12	97	33	43	44	73	81	65
25	34	29	42	95	8	35	60	15	58	89
21	38	19	10	93	62	37	402	397	60	87
36	15	46	44	99	29	41	40	401	77	143

Name _____ Date _____

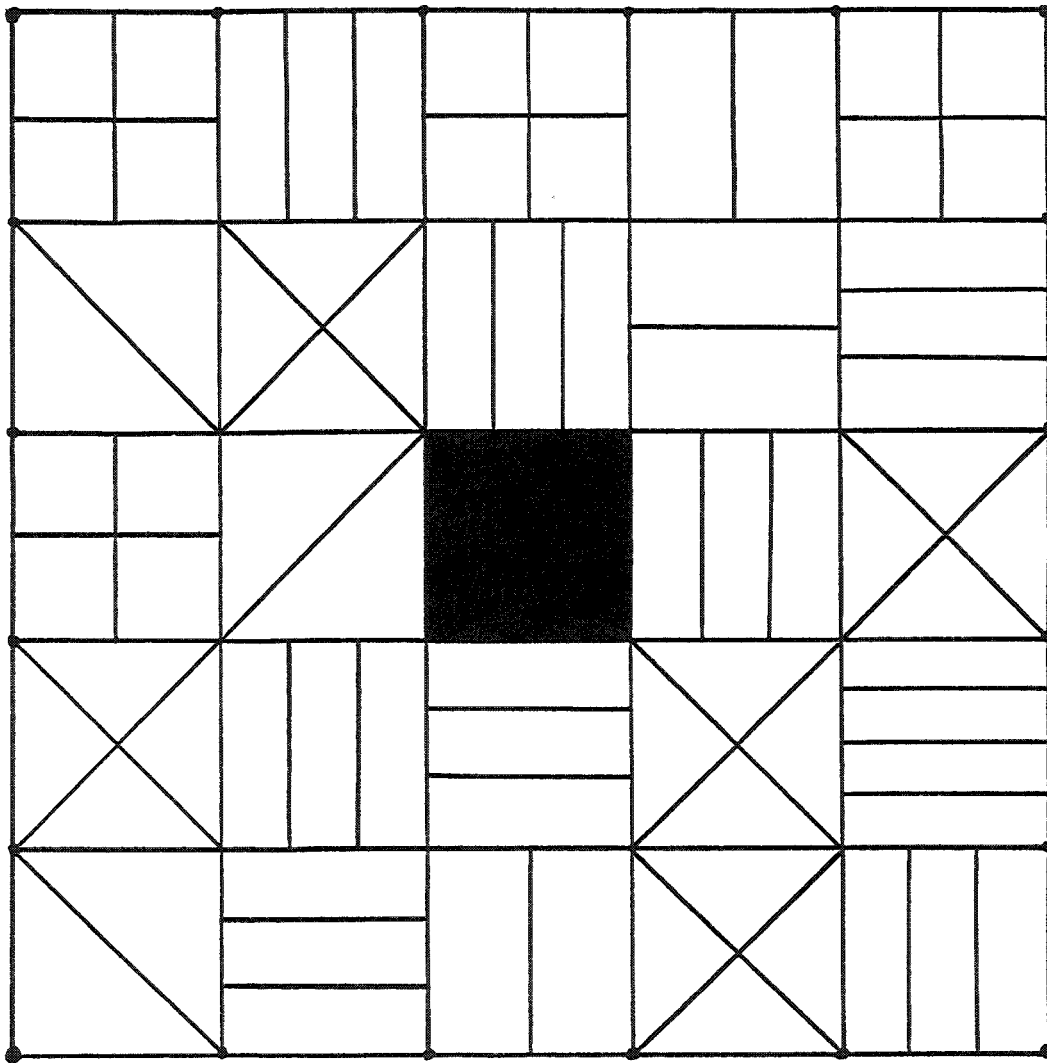
APART BINGO

Fractions are easy to learn if you first understand their meaning. Below is an APART bingo game mat with squares divided into either halves, thirds or quarters.

To play:

1. Colour fractional portions of each box to construct your own personalised bingo game mat. Don't forget to leave some fraction boxes uncoloured to represent zero. It might even help you to win if you include a fraction that equals a whole.
2. After you have constructed your game mat, form a cooperative group with at least two other students. Cut out the APART cards and counters (page 9) and place them in a stack.
3. Each player takes turns drawing an APART card from the stack. When a player draws a card which matches a box with that fractional portion coloured, they place an APART counter on that box. (Only one box can be covered each turn.)

The first player to have five counters in a row is the winner.



Name _____ Date _____

APART BINGO CARDS

$0/2$	$1/2$	$2/2$	$0/2$	$1/2$
$2/2$	$0/3$	$1/3$	$2/3$	$3/3$
$0/3$	$1/3$	$2/3$	$3/3$	$0/4$
$1/4$	$2/4$	$3/4$	$4/4$	$0/4$
$1/4$	$2/4$	$3/4$	$4/4$	Free

Rational numbers

