Name $\qquad$
$\qquad$
Master 3.6a Additional Activity 1: Fraction 50

Play with a partner.
Materials: 15 counters per player (two different colours); Fraction 50 game board (Master 3.6b); pencil and paper

## How to Play:

Decide which player will go first.

1. Player A chooses a square on the board, and places a counter on that square. She calculates the answer and records it on paper.
2. Player B chooses a square, places his counter on that square, then calculates the answer.
3. Player A chooses another square.

After calculating the answer, she adds the answer to her previous total.
4. Play continues until one player reaches 50 .
5. Play another round, this time switching who plays first.

## Variations:

The winner must get a score of exactly 50 .
Choose a number greater than 50 as the goal.

Take It Further: Play the game again.
This time, players must correctly answer the question before placing a counter on a square. The first player to get 4 counters in a row horizontally, vertically, or diagonally wins the game.
$\qquad$
Master 3.6b Fraction 50 Game Board

| $\frac{1}{2}$ of 20 | $\frac{1}{3} \times 18$ | $\frac{3}{4}$ of 12 | $\frac{2}{10} \times 110$ |
| :---: | :---: | :---: | :---: |
| $\frac{4}{5}$ of 5 | $\frac{3}{2}$ of 6 | $\frac{5}{6}$ of 12 | $\frac{1}{12}$ of 60 |
| $\frac{3}{8} \times 24$ | $\frac{4}{3}$ of 3 | $\frac{9}{10} \times 10$ | $\frac{2}{5}$ of 15 |
| $\frac{8}{3} \times 3$ | $\frac{5}{10}$ of 16 | $\frac{1}{9}$ of 36 | $\frac{1}{20} \times 200$ |
| $\frac{2}{3}$ of 9 | $\frac{1}{50} \times 200$ | $\frac{7}{8} \times 8$ | $\frac{4}{10}$ of 20 |

Name $\qquad$

## Master 3.7a Additional Activity 2:

Fraction-Part-Whole Concentration

Play with a partner.
Materials: Fraction-Part-Whole Concentration game cards (Master 3.7b), pencil and paper

## How to Play:

Cut out the cards. Separate them into fractions, parts, and wholes. Decide which player will go first.

1. Shuffle each set of cards. Place each set of cards face down in a horizontal line.
2. Player A turns over 3 cards, one card from each row.

He looks for a match of a fraction, a part, and a whole.
For example, $\frac{1}{3}, 7$, and 21 are a match because $\frac{1}{3}$ of 21 is 7 .
( $\frac{1}{3}$ is the fraction, 7 is the part, and 21 is the whole.)
3. If no match is found, Player A turns all the cards back over.
4. Player B turns over 3 cards, looking for a match.
5. If a match is found, the player keeps those cards, and has another turn.
6. When all the matches have been found, the player with more cards wins.

Take It Further: Create your own set of game cards, then play the game again.
$\qquad$

## Master 3.7b Fraction-Part-Whole Concentration Game Cards

| $\frac{2}{3}$ | $\frac{1}{6}$ | $\frac{4}{3}$ | $\frac{5}{8}$ | $\frac{7}{5}$ | $\frac{9}{10}$ | $\frac{3}{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 40 | 8 | 144 | 45 | 49 | 90 | 12 |
| Part | Part | Part | Part | Part | Part | Part |
| 60 | 48 | 108 | 72 | 35 | 100 | 20 |
| Whole | Whole | Whole | Whole | Whole | Whole | Whole |

Name $\qquad$
$\qquad$

## Master 3.8a Additional Activity 3: Reciprocal Concentration

Play with a partner.
Materials: Reciprocal Concentration game cards (Master 3.8b), pencil and paper

## How to Play:

Cut out the cards.
Decide which player will go first.

1. Shuffle each set of cards.

Place cards face down in 2 rows.
2. Player A turns over 2 cards and tries to match the pairs of reciprocals. For example: $\frac{7}{8}$ and $1 \frac{1}{7}$ would be a match because $1 \frac{1}{7}$ is $\frac{8}{7}, \frac{7}{8}$ and $\frac{8}{7}$ are reciprocals.
3. If no match is found, Player A turns the cards back over in the same position.
4. Player B turns over 2 cards, looking for a match.
5. If a match is found, the player keeps those cards and has another turn.
6. When all the matches have been found, the player with more cards wins.

Take It Further: Create your own set of game cards, then play the game again.

Name $\qquad$

## Master 3.8b Reciprocal Concentration Game Cards

| $\frac{7}{8}$ | $1 \frac{1}{7}$ | $\frac{3}{5}$ | $1 \frac{2}{3}$ | $\frac{3}{4}$ |
| :---: | :---: | :---: | :---: | :---: |
| $1 \frac{1}{3}$ | $\frac{2}{5}$ | $2 \frac{1}{2}$ | $\frac{4}{5}$ | $\frac{5}{4}$ |
| $\frac{5}{6}$ | $\frac{6}{5}$ | $\frac{2}{7}$ | $3 \frac{1}{2}$ | $\frac{3}{7}$ |
| $2 \frac{1}{3}$ | $\frac{5}{8}$ | $1 \frac{3}{5}$ | $\frac{3}{10}$ | $3 \frac{1}{3}$ |

Name $\qquad$ Date $\qquad$

## Master 3.9a Additional Activity 4:

Tic-Tac-Toe Products and Quotients

Play with a partner.
Materials: Tic-Tac-Toe Products and Quotients game board (Master 3.9b), counters; pair of 6 -sided wooden dice, each with the sides labelled $2, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}$

## How to Play:

Each player uses different coloured counters.
Decide which player will go first.

1. Player A rolls the dice and calculates the product and quotients of the numbers rolled.

If the product or quotient appears on the game board, the player uses the counter to claim that square.
If Player A rolls $\frac{1}{3}$ and $\frac{1}{2}$, then the product is $\frac{1}{3} \times \frac{1}{2}=\frac{1}{6}$.
The two possible quotients are $\frac{1}{3} \div \frac{1}{2}=\frac{2}{3}$ or $\frac{1}{2} \div \frac{1}{3}=\frac{3}{2}$
Player A could claim the square containing $\frac{2}{3}$ or the square containing $\frac{3}{2}$.
3. Player B rolls the dice and follows the same process as Player A.
4. The winner is the first player to get a horizontal, vertical, or diagonal line.

Take It Further: Create your own game board based on a 4 by 4 grid using possible products and quotients from the dice.
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## Master 3.9b Tic-Tac-Toe Products and Quotients Game Board



