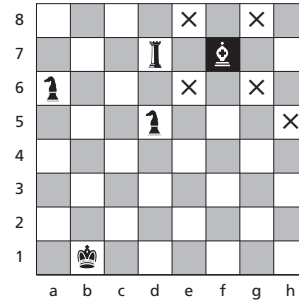Name _____ Date _____ Class _____

Foundations for Functions

Algebra Lab: Chess Translations

Use with the lesson Exploring Transformations

Try This

Use the chessboard from the activity to name all possible locations of each piece after one move.

1. the king on b1   _____

2. the rook on d7   _____

3. the knight on a6   _____

Use the chessboard from the activity to name all possible locations of each piece after two moves.

4. the king on b1   _____

5. the rook on d7   _____

6. the knight on a6   _____

7. Critical Thinking In the last row of a chess game a knight is moved to d5. What are the possible squares that it came from?

_____

8. Make a Conjecture Explain the connection between the position labeling in chess and points in the coordinate plane.

_____
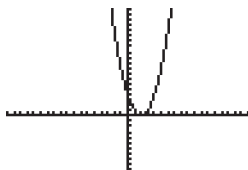
ALGEBRA LAB 1-1
Chess Translations

Try This

1. a1, a2, b2, c1, and c2

2. a7, b7, c7, d6, d8, and e7

3. b4, b8, c5, and c7

4. a1, a2, a3, b1, b2, b3, c1, c2, c3, d1, d2, and d3

5. a7, a8, b2, b3, b4, b5, b6, b7, b8, c1, c2, c3, c4, c5, c6, c7, c8, d6, d7, d8, e1, e2, e3, e4, e5, e6, e7, e8, f6, f8, g6, g8, h6, and h8

6. a7, a8, b2, b3, b4, b5, b6, b7, b8, c1, c2, c3, c4, c5, c6, c7, c8, d6, d7, d8, e1, e2, e3, e4, e5, e6, e7, e8, f6, f8, g6, g8, h6, and h8

7. b4, b6, c3, c7, e3, e7, f4, and f6

8. Possible answer: Both use a horizontal and vertical coordinate, and the horizontal coordinate is listed first. But the coordinate plane uses numbers for both coordinates, and the coordinate plane has an infinite number of points, while the chessboard has only 64 squares.

TECHNOLOGY LAB 1-2
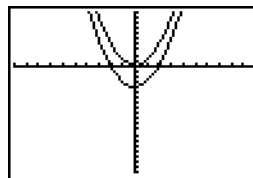## Introduction to Parent Functions

Try This

1.

The graph of $y = (x - 2)^2$ is horizontally translated 2 units to the right from the parent function.

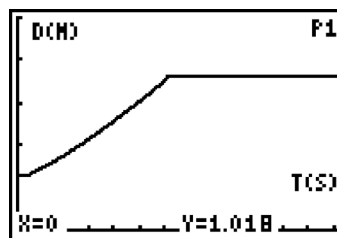2. $y = x^2 + 8$

3. The graph is translated 4 units down.

ALGEBRA LAB 1-4
Collect and Organize Data

1. Yes, there appears to be a linear relationship.

2. Yes, more or less connect with a straight line.

3. Answers will vary.

4. Slope is the number of e's per number of words.

5. $E = kw$ and k will vary

TECHNOLOGY LAB 1-4
Graphing Your Motion

1. The second graph is steeper.

2. Distance vs. Time

Matching Distance vs. Time

Holt McDougal Algebra 2