

Math

Grade 3

Chess math for kids: squares, moves and points

Use the chessboard to multiply, find squares like e4 and count a rook's moves.



I can use arrays and multiplication to solve chessboard problems.



1



Count the board

Write the missing numbers.

1. A chessboard has 8 rows of 8 squares. $8 \times 8 =$ _____ squares.
2. Half of the squares are light. There are _____ light squares.
3. Each player has 8 pawns. Two players have _____ pawns in all.
4. Each player starts with 16 pieces. Two players have _____ pieces.

2



How pieces move

Draw a line from each piece to the way it moves.


☐

Rook



● A. 1 square in any direction.

☐

Bishop



● B. In an L shape: 2 squares one way, then 1 square to the side.

☐

Knight



● C. In straight lines up, down, left or right.

☐

King



● D. Forward, usually 1 square.

☐

Pawn



● E. On diagonals.

3



Find the square

Columns are a to h. Rows are 1 to 8. Circle the right answer.

1. A rook is on a1. It moves 3 squares up. Where is it now?

A a3

B a4

C d1

2. A king is on e4. It moves 1 square to the right. Where is it now?

A d4

B f4

C e5

3. Which square is in column c and row 6?

A c6

B f3

C c3

4

**Piece points**

Chess players give each piece points. Multiply to find the total for each kind of piece.

Piece	Points each	How many	Total points
Pawn	1	8	
Knight	3	2	
Bishop	3	2	
Rook	5	2	
Queen	9	1	

5

**Board math**

Write the missing numbers.

- 4 rows of 8 squares: $4 \times 8 =$ _____ squares.
- 6 rows of 8 squares: $6 \times 8 =$ _____ squares.
- At the start, 32 pieces stand on 64 squares. _____ squares are empty.
- A player has 16 pieces and loses 5. _____ pieces are left.
- 3 queens worth 9 points each: $3 \times 9 =$ _____ points.
- A player starts with 39 points of pieces and loses a rook (5 points). _____ points are left.

6

**True or false**

Circle the right answer.

- A knight moves in an L shape.
- A rook is worth more points than a queen.
- A chessboard has 9 columns.
- Column e and row 4 make the square e4.

True

False

True

False

True

False

True

False

5. Two knights are worth the same as one rook.

True

False

6. A bishop that starts on a light square always stays on light squares.

True

False

7 Where does it land?

Columns are a to h. Rows are 1 to 8. Write the square where each piece ends.

Start	Move	End square
a1	2 squares up	
c3	3 squares right	
h8	4 squares down	
d5	2 squares left	
e2	1 square up and 1 square right	

8 Chess club problems

Read each problem and circle the right answer.

1. A chess club has 18 players. Each game needs 2 players. How many games can they play at the same time?

A 6

B 9

C 16

2. A chess set costs \$14. The club buys 5 sets. What is the total cost?

A \$70

B \$60

C \$75

3. Ana captures a knight, a bishop and a rook. How many points is that?

A 9

B 13

C 11

4. A tournament has 4 rounds. Each round lasts 45 minutes. How many minutes is that in all?

A 145

B 160

C 180

9



Rook challenge

A rook is on d4 on an empty board. How many squares can it move to? Explain how you counted.

How did it go?



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Answer key

Chess math for kids: squares, moves and points

Use the chessboard to multiply, find squares like e4 and count a rook's moves.



I can use arrays and multiplication to solve chessboard problems.



1 Count the board

Write the missing numbers.

1. A chessboard has 8 rows of 8 squares. $8 \times 8 =$ 64 squares.
2. Half of the squares are light. There are 32 light squares.
3. Each player has 8 pawns. Two players have 16 pawns in all.
4. Each player starts with 16 pieces. Two players have 32 pieces.

2



How pieces move

Draw a line from each piece to the way it moves.



C

Rook



E

Bishop



B

Knight



A

King



D

Pawn



● A. 1 square in any direction.

● B. In an L shape: 2 squares one way, then 1 square to the side.

● C. In straight lines up, down, left or right.

● D. Forward, usually 1 square.

● E. On diagonals.

3



Find the square

Columns are a to h. Rows are 1 to 8. Circle the right answer.

1. A rook is on a1. It moves 3 squares up. Where is it now?

A a3

B a4

C d1

2. A king is on e4. It moves 1 square to the right. Where is it now?

A d4

B f4

C e5

3. Which square is in column c and row 6?

A c6

B f3

C c3

4

**Piece points**

Chess players give each piece points. Multiply to find the total for each kind of piece.

Piece	Points each	How many	Total points
Pawn	1	8	8
Knight	3	2	6
Bishop	3	2	6
Rook	5	2	10
Queen	9	1	9

5

**Board math**

Write the missing numbers.

- 4 rows of 8 squares: $4 \times 8 =$ 32 squares.
- 6 rows of 8 squares: $6 \times 8 =$ 48 squares.
- At the start, 32 pieces stand on 64 squares. 32 squares are empty.
- A player has 16 pieces and loses 5. 11 pieces are left.
- 3 queens worth 9 points each: $3 \times 9 =$ 27 points.
- A player starts with 39 points of pieces and loses a rook (5 points). 34 points are left.

6

**True or false**

Circle the right answer.

- A knight moves in an L shape.
- A rook is worth more points than a queen.
- A chessboard has 9 columns.
- Column e and row 4 make the square e4.

True

False

True

False

True

False

True

False

5. Two knights are worth the same as one rook.

True

False

6. A bishop that starts on a light square always stays on light squares.

True

False

7 Where does it land?

Columns are a to h. Rows are 1 to 8. Write the square where each piece ends.

Start	Move	End square
a1	2 squares up	a3
c3	3 squares right	f3
h8	4 squares down	h4
d5	2 squares left	b5
e2	1 square up and 1 square right	f3

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A 9

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C 11

4. A tournament has 4 rounds. Each round lasts 45 minutes. How many minutes is that in all?

A 145

B 160

C 180

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Rook challenge

A rook is on d4 on an empty board. How many squares can it move to? Explain how you counted.

14 squares: 7 in its column (d1, d2, d3, d5, d6, d7, d8) and 7 in its row (a4, b4, c4, e4, f4, g4, h4). $7 + 7 = 14$.

How did it go?



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