



TIMO practice: Handshakes (with solutions)

12 problems · Grade 1, 2, 3 · answers and solutions at the end

Name _____

Date _____



Practise this type in the Karotto app, with questions read aloud and hints when stuck. Scan the code or visit playkarotto.com

Grade 1

- 1 5 teams play, and every two teams play each other exactly once. How many games are there in all?



Answer: _____

- 2 3 teams play, and every two teams play each other exactly once. How many games are there in all?



Answer: _____

- 3 4 teams play, and every two teams play each other exactly once. How many games are there in all?



Answer: _____

- 4 5 teams play, and every two teams play each other exactly once. How many games are there in all?



Answer: _____

Grade 2

- 5 There are 7 friends, and each friend gives a card to every other friend. How many cards are there in all?



Answer: _____

- 6 There are 6 friends, and each friend gives a card to every other friend. How many cards are there in all?



Answer: _____

- 7 4 teams play, and every two teams play each other exactly once. How many games are there in all?



Answer: _____

- 8 7 friends meet, and every two friends shake hands once. How many handshakes are there in all?



Answer: _____

Grade 3

- 9 10 teams play, and every two teams play each other exactly once. How many games are there in all?



Answer: _____

- 10 There are 11 friends, and each friend gives a card to every other friend. How many cards are there in all?



Answer: _____

- 11 7 teams play, and every two teams play each other exactly once. How many games are there in all?



Answer: _____

- 12 There are 8 friends, and each friend gives a card to every other friend. How many cards are there in all?



Answer: _____

Answers and solutions: Handshakes

1. Answer: 10 · Grade 1

How to think: The first team plays the 4 other teams.

Solution: Add up each team's new games: 4 plus 3 plus 2 plus 1 equals 10 games.

2. Answer: 3 · Grade 1

How to think: The first team plays the 2 other teams.

Solution: Add up each team's new games: 2 plus 1 equals 3 games.

3. Answer: 6 · Grade 1

How to think: The first team plays the 3 other teams.

Solution: Add up each team's new games: 3 plus 2 plus 1 equals 6 games.

4. Answer: 10 · Grade 1

How to think: The first team plays the 4 other teams.

Solution: Add up each team's new games: 4 plus 3 plus 2 plus 1 equals 10 games.

5. Answer: 42 · Grade 2

How to think: Each friend gives cards to the 6 other friends.

Solution: There are 7 friends, and each one gives 6 cards: 7 times 6 equals 42 cards.

6. Answer: 30 · Grade 2

How to think: Each friend gives cards to the 5 other friends.

Solution: There are 6 friends, and each one gives 5 cards: 6 times 5 equals 30 cards.

7. Answer: 6 · Grade 2

How to think: The first team plays the 3 other teams.

Solution: Add up each team's new games: 3 plus 2 plus 1 equals 6 games.

8. Answer: 21 · Grade 2

How to think: The first friend shakes hands with the 6 other friends.

Solution: Add up each friend's new handshakes: 6 plus 5 plus 4 plus 3 plus 2 plus 1 equals 21.

9. Answer: 45 · Grade 3

How to think: The first team plays the 9 other teams.

Solution: Add up each team's new games: 9 plus 8 plus 7 plus 6 plus 5 plus 4 plus 3 plus 2 plus 1 equals 45 games.

10. Answer: 110 · Grade 3

How to think: Each friend gives cards to the 10 other friends.

Solution: There are 11 friends, and each one gives 10 cards: 11 times 10 equals 110 cards.

11. Answer: 21 · Grade 3

How to think: The first team plays the 6 other teams.

Solution: Add up each team's new games: 6 plus 5 plus 4 plus 3 plus 2 plus 1 equals 21 games.

12. Answer: 56 · Grade 3

How to think: Each friend gives cards to the 7 other friends.

Solution: There are 8 friends, and each one gives 7 cards: 8 times 7 equals 56 cards.
