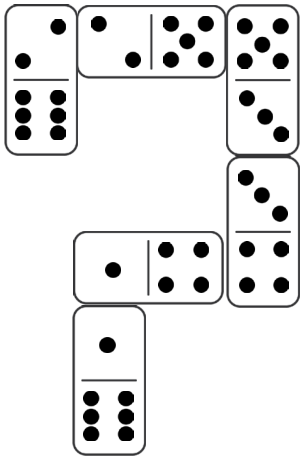
Issue 2: 2020 | Editor: Paul Swan

Mathmag

1. Double 9 Dominoes

How many dominoes in a double nine set?

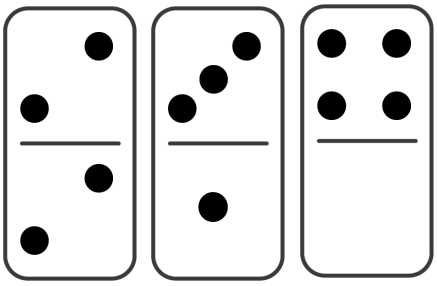
What about a double twelve and double fifteen set?



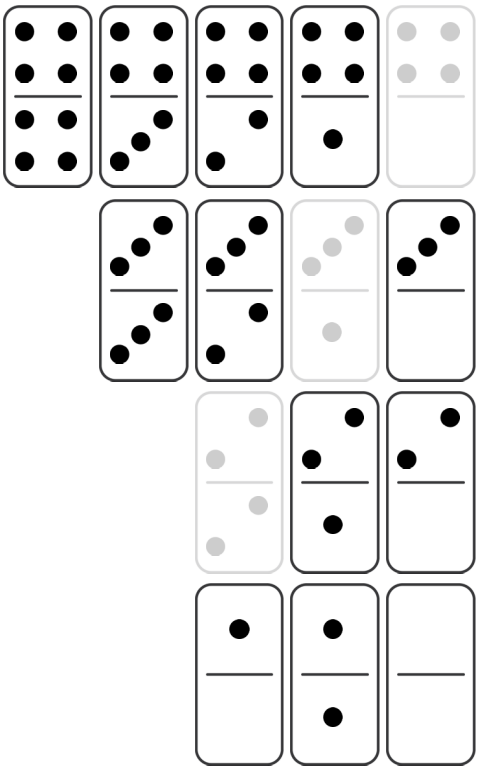
Question adapted from the free ebook "I Can Solve It" from the Glasgow Education Dept, available online.

2. Spot Totals: 4

In a double four set of dominoes there are 15 dominoes. Remove any dominoes with a total of four dots; e.g.



This will leave 6 pairs which total eight. Find them.

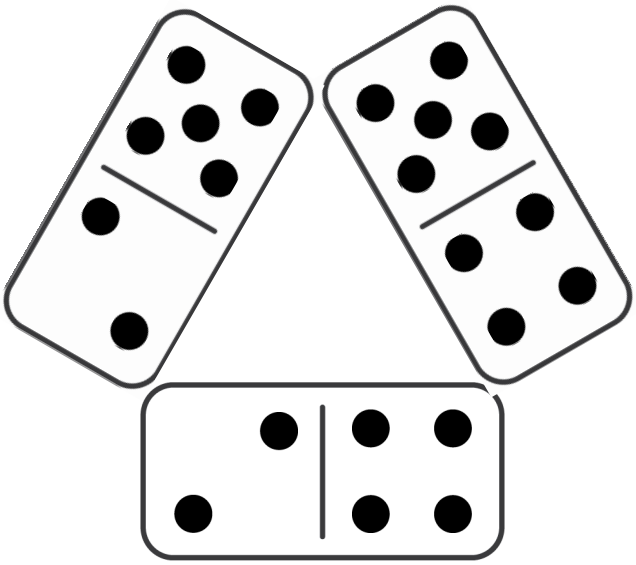


3. Triangle Dominoes

What is the sum of the Domino Triangle?

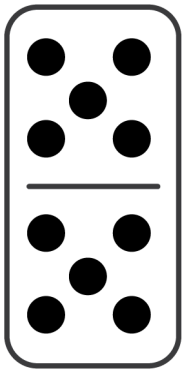
Try making other combinations of three dominoes with the same total.

Experiment with six domino triangles.



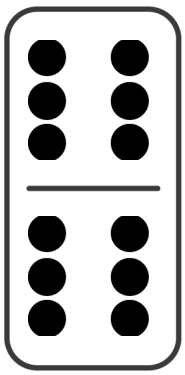
4. 5 & 6 Totals

A set of double five dominoes is made up of 21 dominoes. Find them.



Remove any domino with a total of five spots.

The remaining dominoes should be able to be paired to total ten.



Now try using a double six set of dominoes. You should be able to find 14 pairs which total to 12.

5. Domino Difference 1

The set of dominoes needs to be turned over, face down and spread across a table. Students take turns to:

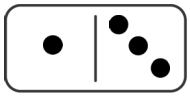
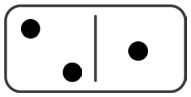
- choose two of the dominoes
- find the total for each one
- calculate the difference between the two dominoes

The difference becomes the score for that round.

The dominoes are not returned to the table. Players take turns and the winner is the person with the highest total.

6. Domino Difference 2

Play as per Domino Difference 1, but use the dominoes to represent two-digit numbers.

For example if the two dominoes chosen are the  and  students have to turn these into tens and units.

So as they appear above they would be worth 13 and 21 respectively, in which case the difference would be 8. Strategically, the best choice would be 31 and 12, in which case the difference becomes 19.

7. Domino Difference 3

This game involves multiplication and subtraction.

As in Domino Difference 1, students choose two of the face down dominoes and find the **product** of each.

Thus with a double six set if the 5-3 and 3-2 dominoes are chosen, the products become 15 and 6 so the resulting calculation will be 15 - 6 = 9.

Consider what happens when you pick up a domino with a blank.

8. Domino Groups

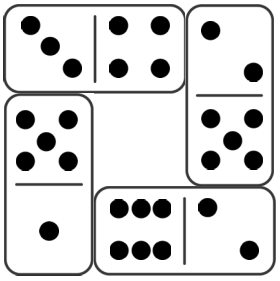
- From a double 6 set remove all the doubles and split it into three equal size groups so the total number of spots for each group is the same.
- From a double 6 set remove all the doubles and split it into seven equal size groups so the total number of spots for each group is the same.

Challenge:

- From a double 6 set, remove all of the dominoes with a six on them. This will leave you with a double 5 set.
- Split a double 5 set of dominoes into three equal size groups so the total number of spots for each group is the same.
- Split a double 5 set of dominoes into seven equal size groups so the total number of spots for each group is the same.

9. Domino Doughnuts

This is a domino doughnut.

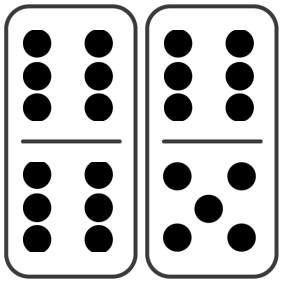


What do the dots on each side total?

Use the same dominoes to make a doughnut with a different side total.

10. Total 23

These two dominoes have a total of 23 spots.



No other two dominoes make that total.

The totals 14 and 10 can be made in 31 ways. 13, 12 and 11 can each be made in 34 ways.

11. Amy's Dominoes

Amy has a box containing ordinary domino pieces but she does not think it is a complete set.

She has 24 dominoes in her box and there are 125 spots on them altogether.

Which of her domino pieces are missing?

This task comes from NRICH (nrich.maths.org/1044). Readers are encouraged to explore the NRICH website.

Answers

1: 55, 91, 136

3: 22

9: 9 dots on each side. New doughnut has a total side of dots equal to 12.

11: See the NRICH website for answers.

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