

WinMaC 2017

Dash Round

Name: _____ Score: _____ / 45

PLEASE DO NOT FILL IN ABOVE! (the SCORE blank)

Grade: _____ Team: _____

This is a round consisting of 15 problems to be done in 25 minutes. Problems are in roughly ascending difficulty. Each question will be worth 3 points. Any figures or diagrams in the test may not be to scale.

No aids are permitted aside from pencils, pens, and provided scratch paper. In particular, no calculators or other computers are permitted. Communication with other people will result in a zero.

Record your answers in the box corresponding to the correct problem. Only answers printed in the boxes below will be scored.

Your Answers

1.	6.	11.
2.	7.	12.
3.	8.	13.
4.	9.	14.
5.	10.	15.

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1. Twice a number is 6 less than 4 times 10. What is 100 minus that number?
2. Out of 25 people, 10 play soccer, 16 play tennis, and 2 play neither. How many people play both soccer and tennis?
3. If you subtract Jason's age from 40, you get his brothers age. What is the sum of their ages?
4. Danny, Max, Robert, Kevin, and Jon are comparing heights. Danny says: I am taller than Kevin but shorter than Jon. Max says: I am taller than Robert but shorter than Danny. Who is the tallest?
5. A circle with radius 6 is cut in half such that it forms two semicircles. What is the total perimeter of one of these semicircles. Express your answer in terms of π .
6. Danny is going to watch a movie with Jane. He needs to pick an outfit. He has 3 shirts, 2 pairs of pants, and 2 pairs of shoes. How many different outfits can he create?
7. Eight fixed people sit around in a circle. Exactly half of them are liars, but all eight of them claim that the person to their left is a liar. How many different groups of the eight people could be liars?
8. A pump fills up an empty pool by itself in 6 hours. A second pump fills up an empty pool in 4 hours. If the pool was half filled, how many minutes will it take for both pumps working together to fill up the pool?

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9. Jason has some prime number of postcards. After giving 8 postcards away to Will, he still had a prime number of postcards. Then, he gave another 3 postcards away to Robert, but he still had a prime number of postcards. How many postcards did Jason have to begin with?

10. There are 5 walnuts, 2 peanuts and 3 cashews in Jeff's sack of nuts. Jessica takes a nut at a time until she gets a peanut. What is the difference between the most and least amount of pulls she needs?

11. Danny is playing in a basketball game with Kareem. He scores 21 points and remembers that he made a total of 9 shots worth either 2 or 3 points. How many 2 point shots did Danny make?

12. On a digital clock, how many times will the digits displayed sum to 6? (e.g. 3 : 12 where $3 + 1 + 2 = 6$)

13. Will can type two pages for an essay in three hours. Robert and Brandon do the same working together in two hours. If the three are working on a group project that needs to be 6 pages, how many hours will it take?

14. Juan owns 30 liters of red paint, 35 liters of blue paint, and 40 liters of yellow paint. For an art project, he uses up an equal amount of red, blue, yellow, and green paints, where green is a mixture between blue and yellow (not necessarily in equal amounts). If the total amount of each paint remaining is the same, how many liters of paint did he use?

15. If a triangle has side lengths 8, $\sqrt{57}$, and 11, what is the measure of the largest angle in this triangle?