Tri Team Attack (9) – Round 2

Tri-Team Attack (9)

20 minutes, 20 questions

Rules

*This is **Round 2** of Tri-Team Attack, which consists of two 20-minute sessions with 20 questions per session and a short break in between. These problems are designed to be time-consuming and collaborative. **Calculators** are permitted. After solving a problem, a team member will submit the answer for **verification**. The first three correct answers will receive a **red** card worth 5 points. The next three will receive a **blue** card worth 3 points. The next three will receive a **green** card worth 2 points. The next three will receive a **yellow** card worth 1 point. If a team gets an answer wrong, they may **try** it again, but they **must return to their table** first – they may not remain at the scoring table.*

*As each correct answer card is collected, a **tally** will be displayed indicating the number of correct answers that have been submitted. This tally will be displayed on an overhead to help teams determine their strategy in their pursuit of correct answers and maximum points. Students may work **only** with their teammates from the same school. **No other collaboration** is allowed. Units are **NOT** necessary.*

Names   _____ Grade _____

_____ Grade _____

_____ Grade _____

School   _____

San Diego Math Field Day May 27, 2017
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1. Wyatt caught 105 Pokémon. One seventh of the Pokémon were Weedles, one fifth were Ratattas, and one third were Pidgeys. How many Pokémon did Wyatt catch that were not Weedles, Ratattas, or Pidgeys?

2. A beaker contains 32 ounces of liquid. Every 10 minutes $1/20^{th}$ of the remaining liquid evaporates. How much liquid has evaporated after 1 hour? Round your answer to the nearest tenth of an ounce.

3. A circle has a center at co-ordinates (5, 12), and passes through the origin at point (0, 0). It also intersects the y-axis at point P (not the origin). What is the y-coordinate of point P?

4. On the most recent math test, Mrs. Crabapple's class of 28 students scored an average of 73 points. Trudie McRudie obviously didn't study for the test and had the lowest score of only 19 points. If Mrs. Crabapple computes the class average without including Trudie's score, what will be the adjusted average score?

5. Michael just completed writing his first book and numbered the pages. Numbering the book required 2649 digits. How many pages does Michael's book have?

6. A *squared rectangle*, as shown here, is a rectangle whose interior can be completely divided into two or more squares. The number written inside a square is the length of a side of that square. What is the area of this squared rectangle?
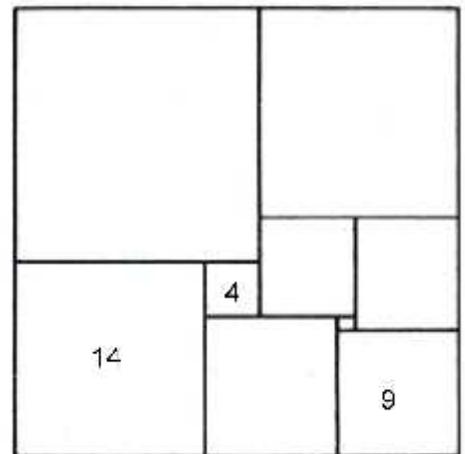
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7. Solve for x: $1 + \dfrac{1}{1+\frac{1}{x}} = \dfrac{15}{8}$

8. *Politician A* lies on Mondays, Tuesdays, and Wednesdays but tells the truth on the other days of the week. *Politician B* lies on Thursdays, Fridays, and Saturdays but tells the truth the rest of the week. One day, both of them said, "Yesterday was one of my lying days." On what day did they say this?

9. In Circle Town everyone loves both circles and pizza. Four friends want to share a 16 in diameter pizza and decide to cut equal area portions in concentric circles rather than radial slices. They make three cuts of radii *a*, *b*, and *c*. Find the product *abc*. Write your answer in simplest radical form.

10. Grant has some marbles. He tries to divide them into three equal groups, but then he has two left over. He then tries to divide them into five equal groups, but then he has one left over. Finally, he finds that he can divide them into seven equal groups with no marbles left over. What is the least possible number of marbles Grant could have?

11. The gloves Elsa wore in Frozen sold at auction for $29,700. This represents 6600% of their estimated value before the auction. How many dollars was the estimated pre-auction value?

12. Out of forty students, 14 use Twitter and 29 use Snapchat. Five students use both Twitter and Snapchat. What is the probability that a randomly chosen student from this group uses only Snapchat? Give your answer as a common fraction.

13. How many even four-digit numbers greater than 5000 can be made using the digits 2, 4, 6, 8 and 9 if digits are allowed to be used more than once?

14. *ABCD* is a square with $AB = 12$. Point *P* is an interior point such that *AP*, *BP*, and the distance from *P* to ___ are all equal. Find this
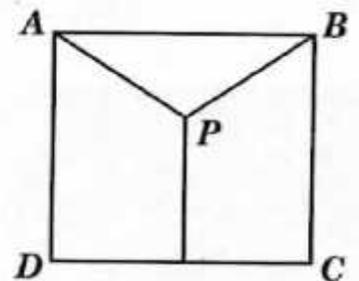
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distance. Write your answer as a decimal to the nearest tenth.

15. How many ways can you arrange the letters in the word FIBONACCI?

16. For her science fair project, Mary is mixing baking soda and vinegar in a bottle to get the cork to shoot up in the air. Her hypothesis is that the height the cork reaches is directly proportional to the amount of baking soda she adds to the bottle. In one experiment, she adds three tablespoons of baking soda and the cork flies nine feet in the air. If Mary's hypothesis is correct, how high will the cork fly when she adds five tablespoons of baking soda?

17. The product of two consecutive, positive, even integers is 528. What is the sum of the two integers?

18. How many integers n satisfying $1000 \leq n \leq 2000$ have the product of their digits equal to zero?

19. Adam rides the High Five chair lift at Mammoth Mountain and skis directly down the face of the mountain. The distance going up the chair lift is the same as the distance down the mountain. If Adam's speed riding up the mountain is 5 mph and his speed skiing down the mountain is 25 mph, what is his average speed for the round trip? Express your answer as a decimal to the nearest tenth.

20. The line through points $(4m, -9)$ and $(7, -5m)$ has slope m. What is the value of m?

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Round 2 Answers

1. 34
2. 8.5
3. 24
4. 75
5. 919
6. 1056
7. 7
8. Thursday
9. $64\sqrt{6}$
10. 56
11. $450
12. 3/5
13. 300
14. 7.5
15. 90,720
16. 15
17. 46
18. 272
19. 8.3
20. 3/2 or 1.5 or $1\frac{1}{2}$