2002 Mount Rainier Math Invitational
Fifth Grade Individual Test
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<u>Reduce</u> all fractions and answers may be left in terms of   or use 3.14 for .

Questions 1-20 are worth 2 points each

1. What is 12 x 11 x 10 x 9 x 8 x 7 x 6 x 5 x 4 x 3 x 2 x 1 x 0?

2. If Bob can mow his lawn in one hour, and John can also mow the same lawn in one hour, how long will it take both of them working together?

3. The area of a rectangle is 51. The width is 3, what is its length?

4. In a right triangle, the two legs (shorter sides) are 3 and 4 units. What is the length of the last side?

5. A train leaves a station going 45 mph. Assuming the track is straight, how far will the train be from the station in 180 minutes?

6. What is 11^2?

7. What is (3000–1000) / 2 + 1002?

8. What is the chance of getting 2 heads when you flip 2 fair coins?

9. A 144-gallon pool is leaking at the rate of 1 gallon per hour. How many days will it take to empty?

10. $3x + 4 = 10$: What does x equal?

11. What is the maximum amount of times that 5 lines can intersect?

12. How many diagonals are in a regular hexagon? (A 6-sided figure.)

13. What is 13 – 12 + 11 – 10 + 9 – 8 + 7 – 6 + 5 – 4 + 3 – 2 + 1?

14. What is $^1/_2$ x $^2/_3$ x $^3/_4$?

15. A certain type of bacteria doubles every 2 days. Starting with one bacteria, how many would be there in 8 days?

16. Reduce: (3-2x1+3)/(5-2x3+9)

17. How many tiles 12x12 inches are needed to cover a floor 6x6 feet?

18. One Widget is worth five Hoohas. 2 Hoohas are worth 3 Dohickeys. How many Widgets are 30 Dohickeys worth?

19. Joe has a collection of Pogs. He gives half to Bill. Then he gives half of the remaining Pogs to Bobby. He now has 5 left. How many Pogs did Joe have to begin with?

20. $x + y + z = 10$. $x = 3$ and $y = 4$. What does z equal?

Questions 21-30 are worth 3 points each

21. There are 2 green marbles and 3 blue marbles in a jar. If drawn randomly, what are the chances that a green marble is drawn?

22. Tammy was alone on a train. 22 people then got on. Then 3 people got off. 16 more got off, and finally 28 got on. How many were then on the train including her?

23. What is 6! ?   (6! means 6x5x ... x1)

24. If you blinked every second, how many times would you blink in two hours?

25. How many feet are in 13 miles?