2026 Mission Math Spring Competition 3-5

You will have 40 minutes to complete as much of this test as you can. There are 30 free response questions total, and questions are arranged roughly from easiest to most difficult. Units are not needed. Write answers on the given line below each question. Calculators are not allowed. Do not begin the test until told to do so. Good Luck!

Full name: _____

Grade: _____

Age: _____

1. A school library has 60 books. 35 are checked out. How many books are still in the library?

_____

2. A classroom has 4 rows of desks with 8 desks in each row. How many desks are there in total?

_____

3. How many days are in 4 months if each month has 20 days?

_____

4. Lizzy's pie is cut into 6 slices. Her mom comes and takes 4. What fraction of her original pie is left?

_____

5. Given $3 = 2(x + 4) - 5x + 16$, what is the value of x?

_____

6. Andy runs 100m in 10 seconds. If he keeps up this pace, how many minutes will 1200m take him?

_____

7. It takes 13 petabytes to store a picture of Kevin. The computer has 60 petabytes of storage. How many pictures of Kevin can the computer store?

_____

8. Tall Hailey's height doubles every 3 seconds. She currently stands at 3 feet tall. How many feet tall will she be after 15 seconds?

_____

9. A bookstore sells notebooks in packs of 4. Emma buys 7 packs. She gives 9 notebooks to her friends. How many notebooks does she have left?

_____

10. If $x + y = 4$ and $x - y = -2$, what is the value of x ?

_____

11. A number is tripled and then increased by 12 to get 45. What is the number?

_____

12. Evaluate $\frac{7!}{(5!)(2!)}$

_____

13. How many prime numbers are between 10 and 30?

_____

14. If a circle's circumference is 20π, what is the area?

_____

15. If 5 elves can make 40 toys in 7 minutes, how many toys can 2 elves make in 21 minutes?

_____

16. A farmer has a number of chickens and cows. The total number of heads is 10, and the total number of legs is 28. How many more chickens does he have than cows?

_____

17. If $a \cdot b = 10$ and $e \cdot c \cdot d = 42$, what is the value of $d \cdot e \cdot a \cdot c \cdot b$?

_____

18. A frog jumps up a staircase. Each jump, it can go up either 1 step or 2 steps. How many different ways can the frog reach the top of a 5-step staircase?

_____

19. How many face diagonals does a cube have? (edges do not count)

_____

20. What is the sum of the divisors of the number 54?

_____

21. If $x + y = 4$ and $2x + 3y = 7$, what is the value of $x^2 + y^2$?

_____

22. Cindy has 6 dolls, a green dolls, b red dolls, and c yellow dolls. How many possible ordered triples (a, b, c) exist?

_____

23. Adam takes 3 math tests. If he got a 32 on the first test and a 24 on the second, what's the minimum score on the last test does he need to get an average score of 30, if the score rounds to the nearest integer?

_____

24. If there are 25 marbles in a jar and 3 are red, 3 are pink, 5 are orange, 7 are green and the rest are white, what is the probabilty Adwita will pull a white marble if she is blindfolded?

_____

25. Andre wants to play a basketball game out of 11 points. If he makes 6 or more of them, he wins a prize. What is the probability he will win a prize if he makes 50 percent of his free throws? Express your answer as a common fraction.

_____

26. Lucy is playing darts. The entire target has a radius of 5 inches. The bullseye has a radius of 3 inches. If she throws a dart randomly on the target, what is the probability it will NOT be in the bullseye?

_____

27. How many positive integers less than 100 have exactly 6 factors?

_____

28. Phi goes to the library for a book. He puts 5 mangas, 2 children's books, and 3 feminist novels. How many ways can he arrange them in a line on a table if books in the same category are identical?

_____

29. In $\triangle ABC$, $AB = 13$, $BC = 14$, and $AC = 15$. What is the length of the altitude from B to side AC?

_____

30. $ABCD$ is a rectangle. $AD = 3$, $DC = 7$, $BC = 3$, $AB = 7$. Consider P inside the rectangle such that $PA = 4$, $PB = 6$, $PC = 11$ find PD^2.