#### Mathlete Training Centre

#### 2024 HXC P3

1. Find the value of  $2024 \times 25$ .

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2. There is a number, when it is added to 202 and then multiplied by 4, the result is 2024. What is this number?

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3. Referring to the figures below, the perimeter of the square in Figure 1 is 24 centimetres. If Figure 2 is a rectangle composed of two squares like those in Figure 1, what is the perimeter of Figure 2 in centimetres?

圖一 圖二
Figure 1 Figure 2

4. There is a dining table with 4 seats. How many ways are there for Hua and Xia to sit in the seats?

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5. Hua and Xia have a total of 2024 dollars. Hua has 468 dollars more than Xia. How much dollars does Xia have?

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6. There are two natural numbers, where one is six times the other, and the two numbers differ by 15. Find the larger of the two numbers.

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7. The age of Hua 5 years ago is the same as the age of Xia 2 years later. The age of Xia 8 years later is the same as the age of Bei 3 years later. When Hua is 15 years old, how many years old is Bei?

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8. A group of scouts forms a square formation for training. Bei notices that there are 2 people to his left, 2 people to his right, 2 people in front of him and 2 people behind him. How many scouts are there in total?

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9. The weight of 3 pears is equal to the weight of 4 apples, and the weight of 2 apples is equal to the weight of 1 peach. The weight of 2 pears and 1 peach combined is equal to the weight of 1 watermelon. How many apples weight the same as 3 watermelons?

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10. Hua, Xia, and Bei went to buy tennis rackets. All three of them bought the same racket, but Bei didn't bring any money. Hua and Xia paid 200 dollars and 334 dollars respectively. How much money should Bei repay to Hua?

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11. Given that 7th January, 2024, is a Sunday, what day of the week is 7th March, 2024?

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12. In a division, the quotient is 20 and the remainder is 24. What is the minimum value of the dividend?

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13. Grandfather bought some cakes for his 6 grandchildren. He originally planned to give each grandchild a certain number of cakes but was short by 10 cakes. As a result, each grandchild received 8 cakes and there were 2 cakes left. How many cakes did Grandfather originally plan to give to each grandchild?

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14. Find the value of 2024+2018+1989+1991+1994+1990+2017+1995.

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15. According to the pattern, how many numbers are there in the following sequence?

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16. Fill in appropriate digits in the grid to make the equation valid. What is the four-digit number  $\overline{ABCD}$ ?

$$A \mid 8 \mid 8 \mid \times \mid B \mid = \mid C \mid 4 \mid D \mid 2$$

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17. There are 4 classes in a certain grade, with a total of 109 students. It is certain that there are at least n students in the same class. Find the maximum possible value of n.

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18. When cutting a piece of wood, it takes 5 minutes to make one cut, and there is a 3-minute break after each cut. If a 4-meter-long piece of wood is cut into smaller pieces, each measuring 25 centimeters in length, how many minutes will it take in total?

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19. It takes 6 hours for 5 workers to clean 10 classrooms. Based on this calculation, how many classrooms can 9 workers clean in 7 hours?

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20. Chickens and rabbits are in the same cage. There are 6 more chickens than rabbits, with a total of 174 legs. How many chickens are there?

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