

Mathlete Training Centre
HUA XIA CUP PRELIMINARY ROUND 2023 PRIMARY 5

1. The weight of 1 elephant is equal to that of 4 cows. The weight of 2 cows is equal to that of 3 horses. The weight of 2 horses is equal to 5 pigs. How many pigs has the same weight as 4 elephants?

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2. In an arithmetic sequence, the 8th term is 41. The 12th term is 53. What is the 23rd term?

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3. The original average score Bei got in 5 subjects in an exam is 75. 30 marks are omitted and will be added to the total score afterwards. What will Bei's final average score be?

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4. Hua and friends bought a board game together. If each person pays 30 dollars, they will need 15 more dollars. If each person pays 40 dollars, there will be an extra of 25 dollars. How much does this board game cost?

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5. How many natural numbers between 100 and 300 can be formed by digits 0, 1, 2, 3 and 4 without repetition?

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6. The sum of the numbers of edges and faces of a prism is 50. How many vertices does it have?

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7. Two math tests are taken in January for 123 students in Grade 5. 88 students passed the second test. 67 students passed both tests. 11 students failed both tests. How many students passed the first test?

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8. There is only one prime number between 290 and 300. Find this prime number.

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9. Refer to the figure, a part is cut from a square paper with an area of 225 square centimetres. Every two adjacent sides are perpendicular to each other. What is the perimeter of the figure now in centimetres?



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10. $A : B = 6:7$, $B : C = 5:2$, $A = 15$. Find the value of C .

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Section B (Q11 - Q20) Each question is worth 7 marks

11. 8 apples and 3 watermelons cost 199 dollars. 1 watermelon is more expensive than 5 apples by 5 dollars. How much does 1 apple cost?

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12. 15 workers make 18 machine parts in 42 days. At this rate, how many days does it take for 55 workers to make 44 machine parts?

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13. A cuboid is 20 centimetres long and 23 centimetres wide. Its surface area is 1436 square centimetres. how high is the cuboid in centimetres?

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14. It takes 12 hours for a boat to travel from city A to city B on a river for 480 kilometres. If the boat can travel 44 kilometres per hour on still water, how many hours does it take for the boat to travel from city B to city A ?

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15. Define ' \square ' as a process satisfying $a\square b = (a + b) \times (a - b) + b \times b$. Find the value of $23\square\pi$

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16. The number of boos Hua has is $\frac{3}{5}$ less than that of Xia. They have 2023 books in total. How many books does Hua have?

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17. Hua adds up several natural numbers starting from 1. The sum obtained is 5995. How many natural numbers does he add up?

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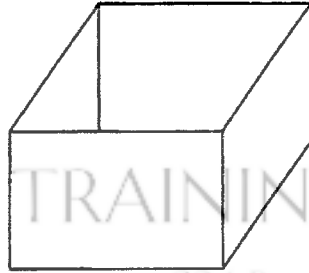
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18. Two trains travel on parallel tracks in opposite directions. They are 156 metres and 174 metres long respectively. Their speeds are 9 metres and 13 metres per second respectively. How many seconds does it take for two trains to cross each other?

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19. Refer to the figure, there is a paper box in the shape of a cuboid without a cover. (That means it has only 5 faces.) The area of the paper used is 300 square centimetres. What is the maximum possible capacity of the paper box in cubic centimetres?



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20. Find the value of $0.397 \times \frac{8}{13} + \frac{12}{130} \times 3.97 + 0.603 + 0.0397 \times 4\frac{8}{13}$.

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