Word problem Part 1

Proportion word problem

1. The ratio of the number of stamps owned by Alex and Ben is 5:4. If Alex gives Ben 5 stamps, the ratio of the number of stamps owned by Alex and Ben becomes 4:5. They have _____ stamps in total.

2. The length ratio of two candles with the same thickness and material is 21:16. They start burning at the same time. After 18 minutes, the length ratio of the long candle to the short candle is 15:11, so the longer candle can still burn_____ minutes.

3. Alex and Ben go to the florist to buy flowers. The price list is: 15 dollars for each rose, 6 dollars for each carnation, and 20 dollars for each lily.
Alex said, "The ratio of the number of roses to that of carnations is 2:3, and the ratio of roses to lilies is 10:3."
Ben said, "A total of 300 dollars was spent."
How many lilies did Ben and Alex buy?

Fraction word problem

1. Alex read a book. On the first day, Alex read $\frac{1}{8}$ of the book and 21 more pages. On the second day, Alex read 6 pages less than $\frac{1}{6}$ of the book. And there are 172 pages left. How many pages are there in this book?

2. Alex has a bag of candies. On the first day, he took $\frac{1}{7}$ of all the candies. On the second day, he took $\frac{1}{6}$ of the rest candies. On the third day, he took $\frac{1}{5}$ of the rest candies. On the fourth day, he took $\frac{1}{4}$ of the rest candies. On the fifth day, he took $\frac{1}{3}$ of the rest candies. On the sixth day, he took $\frac{1}{2}$ of the rest candies, and then there were nine candies left. How many candies did Alex take on the second day?

3. Four monkeys eat peaches. The first monkey eats $\frac{1}{3}$ of the total number of the peaches the other three eat. The second monkey eats $\frac{1}{4}$ of the total number of the other three. The third monkey eats $\frac{1}{5}$ of the total number of the other three. The fourth monkey eats 46 peaches. How many peaches do the four monkeys eat?

4. A project can be completed in 20 days by Team A alone. After Team A works for 8 days, due to other tasks, the rest of the work will be completed in 15 days by Team B. Q: How many days will it take for Team B to complete the work alone?

5. It takes 17 days for Team B to complete a project alone. If Team A does it on the first day, Team B does it the next day, and so on… it will take n days to complete the project (n is a whole number); If Team B does it on the first day, Team A does it the next day, and so on… it will take (n+0.5) days to complete the project. Q: How many days does it take for Team A to do it alone?

6. There are two identical warehouses. Team A needs 6 hours to move all the goods in one of the warehouses, Team B needs 7 hours, and Team C needs 14 hours. Team A and Team B start to move the goods in one warehouse respectively. At first, Team C helps Team A to move the goods, and then goes to help Team B to move the goods. Finally, the goods in the two warehouses are moved away at the same time. Question: How many hours did Team C help Team A?

7. Alex, Ben and Cindy contracted a project and they were paid a total of 1800 dollars. The specific situation for the three people to complete the project is: Alex and Ben worked together to complete one sixth of the project in six days. Because Alex was busy, Ben and Cindy worked together to complete one fourth of the remaining project in two days. After the three people worked together to complete the project in five days, Alex, Ben and Cindy were paid according to the amount of work completed. How much would Alex get?

Percentage word problem

1. What is the alcohol concentration after mixing 100g of 30% alcohol solution and 150g of 20% alcohol solution?

2. There are 20 kilograms of sugar water with a concentration of 10%. How many kilograms of sugar water with a concentration of 30% can be added to get 22% sugar water?