Number Problems

1. The sum of two numbers is 17. Five times one number is one more than twice the other.

2. The difference of two numbers is 11. Twice one number is six more than the other.

3. The sum of two numbers is 23. Twice one number is two less than the other. Find the two numbers.

4. The sum of three numbers is one hundred twenty-three. The second number is two more than than twice the first number. The third number is five less than three times the first number. Find the three number

5. The sum of two numbers is 18. Twice the first is one more than three times the other number. Find the two numbers.

6. The sum of two numbers is 25. Twelve less than four times one of the numbers is 16 more than twice the other number. Find both numbers.

Mixture Problems

1. A solution of 10% acid is added to a solution of 30% acid to make 110 ml solution of 22% acid. How much of each type acid is needed.

Ingredients	Amount	Price or Percent	Total

2. Some 15¢ candy and some 20¢ candy is mixed to make a package of 40 candies. How many of each type are needed if the package sells for $7.15?

Ingredients	Amount	Price or Percent	Total

3. Thirty kilograms of soybean worth 70¢/kg is added to some corn worth 80¢/kg to make some animal feed worth 76¢/kg. How many kg of corn was used in the mixture?

Ingredients	Amount	Price or Percent	Total

4. Forty pounds of cashews costing $5.60 per pound were mixed with 100 lb of peanuts costing $1.89 per pound. Find the cost per pound of the resulting mixture.

Ingredients	Amount	Price or Percent	Total

5. To make a flour mix, a miller combined soybeans that cost $8.50 per bushel with wheat that costs $4.50 per bushel. How many bushels of each were used to make a mixture of 800 bushels costing $5.50 per bushel?

Ingredients	Amount	Price or Percent	Total

6. Walnuts that cost $4.05 per kilogram were mixed with cashews that cost $7.25 per kilogram. How many kilograms of each were used to make a 50-kilogram mixture costing $6.25 per kilogram? Round to the nearest tenth.

Ingredients	Amount	Price or Percent	Total

7. Some 12¢ balloons and some 18¢ balloons are mixed to make a package of 20 balloons. How many balloons of each kind are needed to make a package worth $3.06?

Ingredients	Amount	Price or Percent	Total

Coin and Stamp Problems

1. I have a collection of pennies, nickels, dimes, and quarters. There are five more pennies than dimes, there is one less nickel than twice the number of pennies. The pennies out number the quarters by 4. If I have $4.43, how many of each type of coin do I have?

Coins	Amount # coin	Value ¢	Total Value
Pennies		1	
Nickels		5	
Dimes		10	
Quarters		25	
Total			

2. A stamp collection consists of 3¢, 8¢, and 13¢ stamps. The number of 8¢ stamps is three less than twice the number of 3¢ stamps. The number of 13¢ stamps is twice the number of 8¢ stamps. The total value of all the stamps is $2.53. Find the number of 3¢ stamps in the collection.

Stamps	Amount # stamps	Value ¢	Total Value
Stamp A		3	
Stamp B		8	
Stamp C		13	

3. A stamp collection consists of 3¢, 12¢, and 15¢ stamps. The number of 3¢ stamps is five times the number of 12¢ stamps. The number of 15¢ stamps is four less than the number of 12¢ stamps. The total value of the stamps in the collection is $3.18. Find the number 15¢ stamps in the collection.

Stamps	Amount # stamps	Value ¢	Total Value
Stamp X		3	
Stamp Y		12	
Stamp Z		15	

4. Elizabeth has thirty eight coins consisting of pennies, nickels, dimes, and quarters. She has three more quarters than dimes. There are two more nickels than twice the number quarters. There are three less pennies as twice as many dimes. Find the value of Elizabeth's coins.

Coins	Amount # coin	Value ¢	Total Value
Pennies		1	
Nickels		5	
Dimes		10	
Quarters		25	
Total			

Simple Interest Problems

1. Joe Parker invested $7,625, part at 8% annual interest and the rest at 6.5% annual interest. in the same amount of time, he earned three times as much interest form the 6.5% investment as he did from the 8% investment. How much money did he have invested at 6.5%?

Accounts	p	r	t	I
Investment A				
Investment B				
Total				

2. Fred Ferguson invested $5000 for one year, part at 9% annual interest and the rest at 12% annual interest. The interest from the investment at 9% was $198 more than the interest from the investment at 12%. How much money did he invest at 9%?

Accounts	p	r	t	I
Investment A				
Investment B				
Total				

3. Edition Longwell invested $33,600, part at 5% interest and the remainder at 8% interest. If he earned twice as much from his 5% investment at his 8% investment, how much did he invest at each rate?

Accounts	p	r	t	I
Investment A				
Investment B				
Total				

4. Two investments earn a total annual income of $1069. One investment is in a 7.2% annual interest account and the other is in a 9.8% simple interest CD. The total amount invested is $12,500. How much is invested at each account?

Accounts	p	r	t	I
Investment A				
Investment B				
Total				

5. An investment Club invested $5000 at an annual interest rate of 8.4%. How much additional money must be invested at an annual interest rate of 10.5% so that the interest earned for the year will be 9% of the total invested amount?

Accounts	p	r	t	I
Investment A				
Investment B				
Total				

Distance Rate Time Problems

1. One plane flew 130 km with the help of a tail wind in twice the time that a similar plane flew 60 km against the wind. Find the rate of the wind if each plane can fly 250 km/h when there is no wind.

Object	Rate mph	Time	Distance
Total			

2. Martha drove from her home to the county fairgrounds an average rate of 70 km/h and returned on the same road averaging 50 km/h. If the round trip took 3 hours on the road, how far does Martha live from the county fairgrounds?

Object	Rate mph	Time	Distance
Total			

3. Two airplanes leave Dallas at the same time and fly in opposite directions. One airplane travels 80 miles per hour faster than the other. After three hours, they are 2940 miles apart. What is the rate of each airplane?

Object	Rate mph	Time	Distance
Total			

4. Two trains leave York at the same time, one traveling north, the other south. the first train travels at 40 miles per hour and the second at 30 miles per hour. In how many hours will the trains be 245 miles apart?

Object	Rate mph	Time	Distance
Total			

5. At 1:30 p.m., an airplane leaves Tucson for Baltimore, a distance of 2240 miles. The plane files at 280 miles per hour. A second airplane leaves Tucson at 2:15 p.m., and is scheduled to land in Baltimore 15 minutes before the first airplane. At what rate must the second airplane travel to arrive on schedule?

Object	Rate mph	Time	Distance
Total			

6. Sam began a marathon run at 6:30 A.M. and averaged 12 km/h while Pam began the run at 7:00 A.M. and averaged 15 km/h. At what time did Pam pass Sam?

Object	Rate mph	Time	Distance
Total			

7. A carrier and a destroyer left the same port at 8:00 A.M. and sailed in the same direction. The carrier averaged 30 km/h, and the destroyer traveled at 75 km/h. At what time will they be 375 km apart?

Object	Rate mph	Time	Distance
Total			