

MTH-4101 Word Problems

Type 1 : Age Problems

1. Jack and Mac are talking one day and Mac says, "In 9 years I will be three times your age, but today, I am four times your age. How old are Jack and Mac?"

2. The difference in age between Blythe and Roger is 15 years. In 7 years, Blythe will be twice as old as Roger. Find the age of each.

3. A grandfather says to his grandson, "Today I am four times as old as you are, but in seven years I will be three times as old as your age." Find the age of each person.

4. A father said to his son, "Today I am four times as old as you are, but in 14 years I will be twice your age". Find the age of each person.

5. Eight years ago, Pam's age was double that of Natalie's. In 12 years, Natalie's age will be $\frac{3}{4}$ that of Pam's age. How old are they now?

6. 19 years ago Pat's mom was 24 times his age. In 3 years Pat's mom will be double his age. Determine Pat's age and his mom's age.

7. Stephen is twice Matthew's age. The difference between their ages is 30 years. What are their ages?

8. Today Max is three times as old as Mary. In thirteen years Max will be twice Mary's age. How old is each person?

9. Seven years ago Sara was six times as old as her sister Julie. In sixteen years, Julie will be $\frac{5}{7}$ Sara's age. How old is each sister?

10. Five years ago Mark was three times as old as Gabrielle. In five years, he will be twice her age. How old is each person?

Type 2: Money Problems

1. You buy two sweaters and a pair of jeans to complete your work uniform. The total bill comes to \$125. Your friend buys one sweater and three pairs of jeans of the same type. Her bill comes to \$175. What is the cost of one sweater? What is the cost of one pair of jeans?


2. The attendance at a circus was 40 000 persons. If a child's ticket cost \$3.00 and an adult's ticket cost \$5.00, and if the total receipts amounted to \$170 000, how many children and how many adults saw the show?

3. Jaime has two different jobs. When she works 8 hours as a math tutor and 12 hours as a cashier at a local store she earns a total of \$361.00. If she works 12 hours doing the tutoring and 5 hours at the store then she earns \$453.75. What is her hourly wage at each job?

4. A customer at a bar purchased 3 beer and 5 single rum-and-cokes. His total came to \$28.50. At the next table, Mike bought a beer for each of the four guys and a rum-and-coke for each of the three girls. It cost him \$25.35. What does the bar charge for a beer and what does it charge for a rum-and-coke?

5. A patron in a bar can purchase 6 shots and 2 beers for \$22.50. For the same price he can buy 4 beers and 2 shots. What is the respective cost of a beer and a shot?

6. A school office sells pens and pencils. Anastasia buys 5 pencils and 2 pens and it costs her \$5.25. Michael buys 4 pencils and 8 pens for a total cost of \$15.40. What does the school charge for a pencil? What does the school charge for a pen?



7. Tanya has some quarters and dimes in her pocket. There are 50 coins in all for a total of \$7.25. How many dimes and how many quarters does she have?

8. Benny has some dimes and quarters. She has 30 coins in all for a total of \$5.70. How many coins of each type does she have?

9. Zara has \$5.00 in her coat pocket. This is made up of 38 coins in the form of dimes and quarters. How many dimes and how many quarters does Zara have?

10. Stef's piggy bank has 50 coins totalling \$4.15. The coins are all dimes and nickels. How many dimes and how many nickels are there?

11. Michelle cashes her paycheck, which is for \$530.00. The bank teller gives her 38 bills, some of which are twenty-dollar bills and some of which are ten-dollar bills. How many of each kind of bill does Michelle receive?

12. Jessie has \$8.45 made up of quarters and nickels. He has 77 coins in all. How many quarters and how many nickels does he have?

Type 3: Number Problems

1. The sum of two numbers is 63, and one of the numbers is double the other. What are the numbers?

2. Find two numbers whose difference is 20 if a third of their sum is 40.

3. The difference between two numbers is 7. One-third of the larger number added to one-quarter of the smaller number is 7. Find the numbers.

4. The difference between two numbers is 13. One-half of the smaller number added to one-third of the larger number is 16. Find the numbers.

5. The difference between two numbers is 18. One-half of the larger number added to one-quarter of the smaller number is 21. Find the two numbers.

6. Two numbers differ by 52. One is triple the other. What are the two numbers?

7. Two numbers differ by 11. One-sixth of the larger number added to one-fifth of the smaller number also results in 11. Find the two numbers.

8. One number is four times another number. The difference between the two numbers is 51. Find the numbers.

Answers

Type 1: Age Problems

1. MAC is 72 yrs old and Jack is 18 yrs old
2. Blythe is 23 years old and Roger is 8 years old
3. Grandson is 14 years old
Grandfather is 56 years old
4. Son is 7 years old
Dad is 28 years old
5. Pam is 28 years old
Natalie is 18 years old
6. Pat is 20 years old
Mom is 43 years old
7. Matt is 30 years old
Stephen is 60 years old
8. Max is 39 years old
Mary is 13 years old
9. Sara is 19 years old
Julie is 9 years old
10. Mark is 35 years old
Gabrielle is 15 years old

Type 2: Money Problems

1. sweater: \$40 , jeans: \$45
2. 25 000 adults, 15 000 children
3. cashier wage: \$6.75/hr, tutoring wage: \$35/hr
4. beer: \$3.75, rum and coke: \$3.45
5. shot: \$2.25, beer: \$4.50
6. pencil: \$0.35, pen: \$1.75
7. 15 quarters and 35 dimes
8. 18 quarters and 12 dimes
9. 8 quarters and 30 dimes
10. 17 nickels and 33 dimes
11. 15 \$20 bills and 23 \$10 bills
12. 23 quarters and 54 nickels

Type 3: Number Problems

1. 21 and 42
2. 50 and 70
3. 8 and 15
4. 14 and 27
5. 16 and 34
6. 26 and 78
7. 25 and 36
8. 17 and 68