

January Math Challenge 7

Solutions

1. I am 3 years younger than my sister. My sister is 11 years old. How old am I?

Answer: 8

2. My sister is twice as old as I am. She is 14 years old. How old am I?

Answer: 7

3. I am the youngest of three children. Each of us is 3 years in age apart from our sibling closest in age. My oldest sibling is 12 years old. How old am I?



Answer: 6

4. I am the oldest of 4 children. Each of us is 2 years in age apart from our sibling closest in age. If my youngest sibling is 2 year old, how old am I?



Answer: 8

5. My oldest sister is 17 years old. In three years, I will be half the age of my oldest sister. How old am I now?

Answer: 7

In three years, my oldest sister is $17+3 = 20$ years old, and I'll be 10 years old. Now I am only $10-3 = 7$ years old.

6. Seven years ago my brother was old enough to drive and got his driver's license on the day of his birthday. How old is he now? *Hint: ask your parents how old do you have to be to get a driver's license.*

Answer: 23

7. This year my sister is old enough to drive me to soccer practice. She just got her driver's license last week. I can't wait until I am old enough to drive. I am exactly 4 years younger than my sister. How old am I?

Answer: 12

This year my sister turned 16 and she is now old enough to drive. Since I am 4 years younger, I must be $16 - 4 = 12$ years old.

8. My little brother is 6 years old. In three years, my age will be twice the age of my little brother, how old am I right now?

Answer: 15



In three years, my age is $(6 + 3) \times 2 = 18$. Right now, I am only $18 - 3 = 15$.

9. The sum of the ages of Al and Bill is 25; the sum of the ages of Al and Carl is 20. If Carl is 12, how old is Bill?

Answer: 17

Since Carl is 12, and Al + Carl is 20, therefore Al must be $20 - 12$, which is 8. Since you know that Al and Bill is 25, Bill must be $25 - 8$, which is 17.

10. The sum of the ages of three children is 32. The age of the oldest is twice the age of the youngest. The ages of the two older children differ by 3 years. What is the age of the youngest child? *Hint: make a table.*

Answer: 7

Youngest	Oldest	Middle	Sum of the ages
5	10	7	22
6	12	9	27
7	14	11	32

Look for the age when the oldest is twice the youngest, and make sure that the middle child is 3 years younger than the oldest. The sum of their age has to be 32.

11. Person A was born on January 15, 1948. Person B was born on January 15, 1962. If both are alive now, in what year was person A twice as old as person B?



Answer: 1976

Hint: How old is person A when person B is born?

Person A was 14 when person B was born in 1962. Fourteen years later, person A was 28 and B was 14. Therefore, person A was twice as old as person B in 1976.

12. The sum of the ages of Alice, Betty, and Clara is 29 years. Betty is 4 years older than Alice and Clara is 6 years older than Betty. What is Alice's age? *Hint: make a table.*

Since the average age is less than 10, let's start with A = 9

A	B	C	A+B+C
9	13	19	9+13+19=41
8	12	18	8+12+18=38
...
5	9	15	29

Answer: 5

13. Mr. Gupta was born on January 1, 1980. His daughter, Brittany was born on January 1, 2002. In what year was Mr. Gupta exactly three times as old as Brittany? *Hint: Make a table*

Make a table that shows multiples of 3 for Mr. Gupta's age and then subtract 22 years to get Brittany's age.

Check when Mr. Gupta's age is three times Brittany's age.

Mr. Gupta's age	24	27	30	33
Brittany's age	2	5	8	11
Is Mr. Gupta 3 times as old?	No	No	No	Yes

When Mr. Gupta was 33 years old, Brittany is 11. The year when Brittany was 11 years old was 2013.

Answer: 2013

The next Math Challenge will be available on February 12, 2016.