



MATH AND LOGIC PUZZLES FOR THE 'ENGINEER' IN ALL OF US (RE-PRINTED WITH PERMISSION FROM PZZLS-WWW.PZZLS.COM)



BOB AND JOHN

Bob and John form a team together. Bob is as old as John will be when Bob is twice as old as John was when Bob was half as old as the sum of their current ages. John is as old as Bob was when John was half as old as he will become in ten years.

How old are Bob and John?

ANSWER:

Let us call the current age of Bob "B" and of John "J". The first fact is that Bob is as old as John will be when Bob is twice as old as John was when Bob was half as old as the sum of their current ages.

When Bob was half as old as the sum of their current ages, he had reached the age of $(B + J) / 2$ years. This is now $B - (B + J) / 2 = B/2 - J/2$ years ago. At that moment, John was $J - (B/2 - J/2) = 3/2 J - B/2$ years old. If Bob is twice as old as John at that moment, then Bob is $(3/2 J - B/2) 2 = 3 J - B$ years old. That moment is $3 J - 2 B$ years from now. Then John will be $J + 3 J - 2 B = 4 J - 2 B$ years old. And that is exactly the age of Bob, so $B = 4 J - 2 B$ which gives that $3 B = 4 J$.

The second fact is that John is as old as Bob was when John was half as old as he will become over ten years. When John had half the age as he will have over ten years, he was $(J+10)/2$ years old. This is now $J - (J + 10) / 2 = J/2 - 5$ years ago. At that moment Bob was $B - (J/2 - 5)$ years old. According to the second fact, John is now as old as Bob was at that moment, so $J = B - (J/2 - 5)$. It now follows that $3 J / 2 = B + 5$.

Summarizing, we end up with two equations.

$$3 B = 4 J$$

$$B + 5 = 3 J / 2$$

Multiplying the bottom equation with -3 gives after adding the top equation $-15 = (4 - 9/2) J$

Solving this equation gives $J = 30$. And now it easily follows that $B = 40$.

So John is 30 years old and Bob 40.

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A MOVING TALE

(FIND A WORD CONTAINING "CITY" FOR EACH LINE) ANSWER:

- I lived in a city that held as much as it could,
- So I moved to another that repaid what it should.
- The third had very little, with not much to be found,
- The fourth was very boring, with no change in the sound.
- The fifth was a jungle; wild beasts roamed in the street,
- The sixth was so foggy you could not see past your feet.
- The seventh was on the move; I could barely keep the pace,
- The eighth was so evil; a whole city in disgrace.
- The ninth was off-center; the people were bizarre,
- The tenth was quite truthful; where honesty is par.
- The eleventh was so wise; the acumen hurt my brain,
- So I settled in a twelfth, because it was so plain.

- CAPA CITY
- RECIPRO CITY
- SCAR CITY
- MONOTONI CITY
- FERO CITY
- OPA CITY
- VELO CITY
- ATRO CITY
- ECCENTRI CITY
- VERA CITY
- SAGA CITY
- SIMPLI CITY





THE SMITH JONES ROBINSON RIDDLE

On a train, Smith, Robinson, and Jones are the fireman, brakeman, and the engineer, but NOT respectively. Also aboard the train are three businessmen who have the same names: a Mr. Smith, a Mr. Robinson, and a Mr. Jones. Using the clues below, can you determine the identity of the Engineer?

1. Mr. Robinson lives in Detroit.
2. The brakeman lives exactly halfway between Chicago and Detroit.
3. Mr. Jones earns exactly \$20,000 per year.
4. The brakeman's nearest neighbor, one of the passengers, earns exactly three times as much as the brakeman.
5. Smith beats the fireman in billiards.
6. The passenger whose name is the same as the brakeman's lives in Chicago.

ANSWER:

1. Mr. Robinson lives in Detroit and the brakeman's nearest neighbor earns exactly 3 times as much as the brakeman. Therefore, neither Mr. Robinson nor Mr. Jones are the brakeman's nearest neighbor, so it must be Mr. Smith.
2. Smith beats the fireman at billiards and the passenger whose name is the same as the brakeman's lives in Chicago. Mr. Robinson lives in Detroit and Mr. Smith lives between Chicago and Detroit. Therefore, it must be Mr. Jones who lives in Chicago and Jones is the brakeman.

Smith is not the brakeman and he is not the fireman. He must be the engineer.