Word Problems and Common Sense[1]

1. 79 books are placed on 2 shelves. One shelf has 3 more books than the other. How many books are there on each shelf?

2. Hugo eats up a jar of strawberry jam in 15 days, and Celeste does the same in 10 days. How long would a jar of jam last if both Hugo and Bella ate from it?

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[1]From *Mathematical Circle Diaries* by Ana Burago

1   Picture Sums

1. The ages of two siblings add up to 53 years. The brother is 9 years older than the sister. How old is the brother?

2. Jim, Bob, Tom, and Siegfried took part in a pie eating contest. Jim ate 1 less pie than Bob, Bob ate 1 less than Tom, and Tom ate 1 less than Siegfried. How many pies did each one eat if together they ate 90 pies?

3. A mountain gnome has a collection of precious stones. His dream is to have three times as many stones as he has now. The gnome noticed that his dream will come true if he adds 18 stones to his collection. How many precious stones does he have now?

Extra Problems

4. Max and Bella spent the same amount of money at the amusement park. Max went on 3 roller coster rides and 1 merry-go-round ride, while Bella rode the roller coater twice and the merry-go-round 4 times. Which ride is more expensive and how many times more expensive?

5. There are 32 animals on the farm – all pigs and hens. Together, these animals have 104 legs. How many pigs and how many hens are there at the farm?

2   Working Together

1. It takes 2 days for a horse to finish 1 bale of hay, 3 days for a cow to eat the same amount of hay, and 6 days for a goat to do the same. In how many days would the three of them together consume 1 bale of hay?

2. Two turtles are racing each other. It takes 9 hours for the first turtle to crawl 4 meters and 11 hours for the second one to crawl 5 meters. Which turtle will win the race?

   Extra Problems

3. It takes 12 months for Santa Claus to prepare all the gifts for the upcoming Christmas. If would take 20 months for Santa's apprentice to do they same job. If they work together, how long will it take for them to prepare all the gifts?

4. Last year, it took 3 weeks for Grandma Ethel to knit blue scarves as gifts for all the grandchildren. This year, she wants to give them red scarves, and her daughter Betty will help her with knitting. If would take Betty 11 weeks to knit all the scarves if she works on her own. How long will it take for the two of them to finish the job if they work together?

3   Miscellaneous

1. Jeannie and Max had the same number of cookies. Max gave Jeannie 2 of his cookies.

   (a) How many more cookies than Max does Jeannie have now?

   (b) If Max now has only half as many cookies as Jeannie, how many cookies did each of them have in the beginning?

2. At Hogwarts last year, the number of wizards who passed the levitation test was the same as the number of witches who failed it. Which is greater: the number of witches who took the test or the total number of witches and wizards who passed it?

3. 25 kids are on a swim team. Out of any 10 of them, at least one is a girl. Out of any 17 of them, at least one is a boy. How may girls and how many boys are on the swim team?

Extra Problems

4. Brenda the Beaver stumbled upon a pile of long logs. For several days, she cut the long logs into smaller pieces. She made a total of 83 cuts, and ended up with 100 short logs. How many logs were there at the start?