



First Name: _____ Last Name: _____ Grade: _____

Teacher: _____ Parent's email: _____









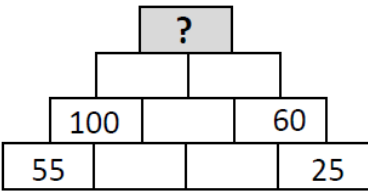






Algebraic and Logical Reasonings

Welcome to our final Math Challenge, Math Challenge #15. This is the last math challenge set for this school year. If you would like to continue to receive news and information on Math Challenge program and Math Challenge Tournament, you can sign-up at <https://www.mathinaction.org/>.



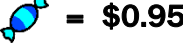

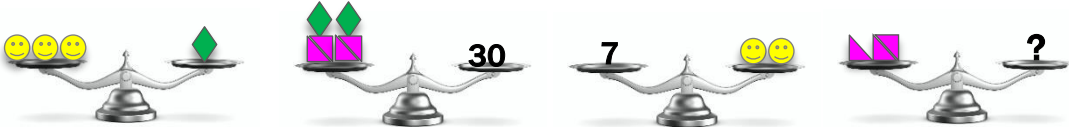
This set has mostly algebraic and logic problems. You will need to use deductive reasoning to solve these problems. Good luck and enjoy!

Kinder & First Grade: solve at least 3 problems.
Second & Third Grade: solve at least 7 problems.
Fourth Grade and above: solve at least 12 problems.

Answer

1.	 +  = 8	 = ?	
2.	When Lisa subtract 2 from the number of coins she has, she gets 7. How many coins does she have?		
3.	 +  = 6	 +  = 12	 = ?
4.		Study the picture carefully. The value in each rectangle is the sum of the two numbers directly beneath it. What number should be placed in the shaded box?	
5.	Olga, Shin, Boris and Kyle took part in a swimming competition. Olga came in 3rd, Boris was not first and Kyle was not 4th. Shin was not the winner, and he is faster than Boris. Based on the information, which of the following has a list that shows the order, starting with first place to last place.		
6.	There are 13 people ahead of Fayed and 13 people behind him as he stands in a line to get ice-cream. Altogether, how many people are in line?		
7.	 +  +  = 24	 = ?	
	 -  = 13		

8.	The sum of two numbers is 100. Their difference is 32. What are the two numbers?	
9.	My brother is older than my sister. I am older than my brother. My brother's and my sister's ages add up to 12. Our three ages are all distinct whole numbers. The sum of all our ages is 20. How old is my sister?	
10.	<div> </div> <p>Tasha, Celia, and Sony each ordered a sandwich and a drink. No one ordered anything beginning with the same initial as his or her name. No one ordered the same sandwich or drink. Celia ordered a salami sandwich and tea. What did Tasha order?</p>	
11.	<div> $\begin{array}{l} \text{Pencil} + \text{Ruler} = \\$6.00 \\ \text{Compass} + \text{Pencil} = \\$10.50 \\ \text{Compass} + \text{Compass} = \\$14.00 \end{array}$ </div> <div> $\text{Ruler} + \text{Compass} = ?$ </div>	
12.	A restaurant has tables for four and tables for six. There is a total of 32 tables with seats for 152 customers. How many tables for six are there?	
13.	<div> </div>	
14.	The difference between the ages of Sally and her father is 30 years. When Sally is twice as old as she is now, her father will be twice her age. How old is Sally now?	

15.	 = \$5.00  = \$25.00  = \$0.95  = ?	
16.	<p>Tickets for the concert cost \$4.50 for adults and \$3.00 for children. One hundred people attended the concert. If \$360 was collected for the tickets, how many children attended the concert?</p>	
17.	<p>Three hundred twenty students stood in line. Beginning with the first student, they counted by ones. Every student who said a number that was a multiple of 2 sat down. The students still standing once again counted by ones, and any student who said a number that was a multiple of 2 sat down. After doing this three more times, how many students were left standing?</p>	
18.		

Solution is available on May 20, 2022, at www.mathinaction.org