

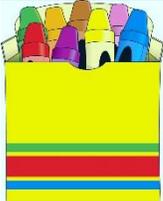
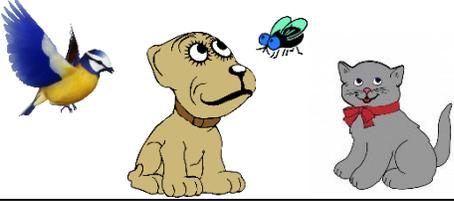
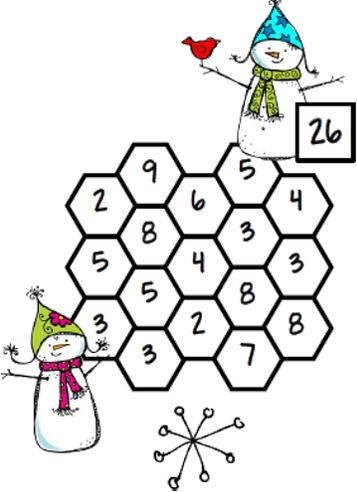
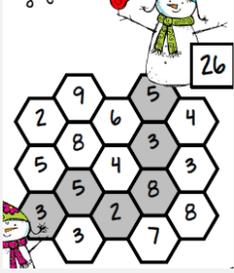
Math Challenge #12

SOLUTIONS

Math Puzzles

The math problems in this math challenge are mostly math puzzles. It will require you to make deductions, to guess and check, and maybe work backward. Enjoy.

Kinder & First Grade: solve at least 3 problems.
Second & Third Grade: solve at least 6 problems.
Fourth Grade and above: solve at least 12 problems.

<i>Problems</i>	<i>Answer</i>
<p>1. Use + or – in each box to make the math sentence true:</p> $3 \square 4 \square 2 \square 6 = 11$	<p>+ – +</p>
<p>2. Look at this box of crayons. If you took all the crayons in the box and broke them in half, how many children could have something to color with?</p>	<p>16</p> 
<p>3. The dog ate 9 flies. The cat ate 4 more flies than the dog. The bird ate 3 less flies than the cat. How many flies did all three animals eat?</p>	<p>32</p> 
<p>4.  stands for 18 books. How many books does  stand for?</p>	<p>12</p>
<p>5.</p>  <p>Color a path from one snowman to the other that adds to exactly 26.</p>	

6.

$$\text{If } \text{gear} \times \text{gear} = 36,$$

$$\text{and } \text{snowman} \times \text{snowman} = 16, \text{ then } \text{gear} \times \text{snowman} = ?$$

$$6 \times 6 = 36 \text{ and } 4 \times 4 = 16, \text{ then } 6 \times 4 = 24$$

24

7.



If the value of B is **twice** the value of C, what is the sum of A, B, and C?

$$56 \div 28 = 2; 2 \div 2 = 1. \text{ Therefore, } 28 + 2 + 1 = 31$$

31

8.

Victoria saves \$2 every day. For every \$5 she saves, her grandmother gives her another \$1. How much will Victoria have after 2 weeks?

$$2 \text{ weeks} = 14 \text{ days, } 14 \times \$2 = 28 \text{ savings, } \$28 \div 5 = \$5 \text{ R}\$3$$

$$\$28 + \$5 = \$33$$

\$33

9.

Study the pattern below carefully. What number belong to the question mark?

26		18
	8	
10		34

40		28
	12	
?		52

$$\text{First figure: } 26 + 8 = 34 \qquad 10 + 8 = 18$$

$$\text{Second figure: } 40 + 12 = 52 \qquad 28 - 12 = 16$$

16

10.

Jessica bought a total of 20 binders and paid \$76. The colorful binders cost \$5 while the plain white binders cost \$2 each. How many colorful binders did she buy?

$$20 \times \$2 = \$40 \text{ if all the binders were white}$$

$$\$76 - \$40 = \$36 \text{ undercounted, thus, there should be colorful binders}$$

$$\$5 - \$2 = \$3 \text{ the difference between the white colorful binders' cost}$$

$$\$36 \div \$3 = 12 \text{ colorful binders}$$

12

11.

In these addends, each letter represents a single digit. A given letter always represents the same digit while different letters will always represent different digits. What number is represented by SCENT?

$$\begin{array}{r} \text{CENT} \\ \text{CENT} \\ + \text{SCENT} \\ \hline 35128 \end{array}$$

$$T + T + T = \dots 8, \text{ the only possible option for T as a digit is 6, } 6 + 6 + 6 = 18, \text{ we write 8, 1 is a carryover}$$

$$N + N + N + 1(\text{carryover}) = \dots 2, N = 7, 7 + 7 + 7 + 1(\text{carryover from previous addition}) = 22, \text{ write 2, 2 carryover}$$

$$E + E + E + 2(\text{carryover}) = 1, \text{ means } E + E + E = 9, \text{ thus } E = 3. 3 + 3 + 3 + 2(\text{carryover}) = 11, \text{ write 1, 1 carryover}$$

$$C + C + C + 1(\text{carryover}) = 5, C + C + C = \dots 4, C \text{ is } 8. 8 + 8 + 8 + 1 = 25, \text{ write 5, 2 is carryover. } S + 2(\text{carryover}) = 3, S = 1$$

$$\text{SCENT} = 18376$$

18376

12.

$$\text{pencil} + \text{pencil} + \text{pencil} + \text{ruler} = \$56$$

$$\text{pencil} + \text{ruler} + \text{ruler} + \text{pencil} = \$64$$

What is the value of  +  ?

$$\text{If you multiply the value of } \$56 \times 2, \text{ you would have 6 pencils and 2 rulers for } \$112.$$

$$\text{Since you know 2 pencils and 2 rulers} = \$64, \text{ therefore, } 4 \text{ pencils} = \$112 - \$64 = \$48. \text{ Then 2 pencils} = \$24.$$

$$\text{The two rulers} = \$64 - \$24 = \$40.$$

\$40

