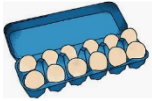
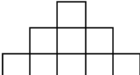
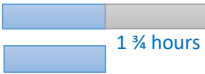
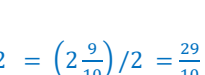


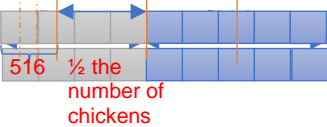


Math Challenge #15



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.

	<i>Answer</i>
1. She has $7 - 1 - 2 = 4$ pencils left.	<i>4 [pencils]</i>
2. The number of Candies Dan has is $6 + 5 = 11$ candies. Altogether, they have $11 + 6 = 17$ candies.	<i>17 [candies]</i>
3. $16 + 8 = 24$ marbles	<i>24 [marbles]</i>
4.  $10 \text{ eggs} - 4 \text{ eggs} = 6 \text{ eggs}$ $6 \text{ eggs} + 12 \text{ eggs} = 18 \text{ eggs}$	<i>[18 eggs]</i>
5. Make an organized list. 517 571 157 175 715 751	<i>517, 571, 157, 175, 715, 751</i>
6. 5 cans of white paint = 5×5 gallons = 25 gallons. 4 cans of red paint = 4×5 gallons = 20 gallons. Total = $25 + 20 = 45$ gallons. Or $5 + 4 = 9$ cans of pink paint. $9 \times 5 = 45$ gallons.	<i>45 [gallons]</i>
7. Points from the correct answers: $8 \times 10 = 80$ points. Points subtracted from the wrong answers: $2 \times 5 = 10$. Total points that Andy got: $80 - 10 = 70$	<i>70 [points]</i>
8. Monday: 2 miles Tuesday: 2×3 miles = 6 miles $20 - (2+6) = 12$ miles	<i>12 [miles]</i>
9. $(123-11) \div 8 = 14$ students	<i>14 [students]</i>
10. 14 days before May 13 is April 29. Another way to look at: 7 days before May 13 is May 6. Another 7 days before May 6 is April 29.	<i>April 29</i>
11. Notice that the number of total books is the same, which is $60 + 24 = 84$ books. If in the end Madeline had 20 more books, then below is the scenario of the situation: <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;">Madeline</div> <div style="border: 1px solid gray; width: 100px; height: 15px; background-color: #ccc; position: relative;"> 20 </div> <div style="margin-left: 10px;">}</div> <div style="margin-left: 10px; color: red;">84</div> </div> <div style="margin-top: 5px;"> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Ben</div> <div style="border: 1px solid gray; width: 100px; height: 15px; background-color: #4a7ebb; color: white; display: flex; align-items: center; justify-content: center;"> 32 </div> </div> </div> <p>Ben has $(84 - 20) \div 2 = 32$ books and Madeline has $32 + 20$ or 52 books. Before that, Madeline had 60, so she must have given Ben 8 books.</p>	<i>8 [books]</i>

12.	<p>Work backwards. $((6+n)6-6)\div 6 = 6$ $6\times 6 = 36, 36 + 6 = 42, 42\div 6 = 7, n = 7-6 = 1$</p>	1	
13.	<p>Half of the tank is $128 \div 2 = 64$ liters, which is filled by 4 buckets $64 \div 4 = 16$ liters in 1 bucket</p>	16 [liters]	
14.	<p>Perimeter = $2(5+3)$side length=32 cm, each side length is 2 cm. Area of each square is 4 cm^2</p>		4 cm^2
15.	<p>$68 - 2 \times 21 = 26.$ $26 \div 2 = 13$ inches is the width of the box The area of the rectangle is $21 \times 13 = 273\text{ in}^2$</p>	273 in^2	
16.	<p>Total hours spent: 4 hours and 39 min = $4\frac{13}{20}$ hours.</p> <p>English HW  } $4\text{ h } 13/20$ Math HW </p> <p>$(4\frac{13}{20} - 1\frac{3}{4})/2 = (2\frac{9}{10})/2 = \frac{29}{10} \times \frac{1}{2} = \frac{29}{20}$ hours spent on Math HW</p> <p>English HW: $\frac{29}{20} + 1\frac{3}{4} = 3\frac{1}{5}$ hours or 3 h 12 min</p>	3 hours and 12 minutes	
17.	<p>4 kits:  1 set:  } 5 sets } $5\text{ chem sets} + 4\text{ science kits} = \\216</p> <p>The chemistry set cost: $\frac{216}{6} = \\$36$ The science kit cost: $\\$36/4 = \\9</p>	\$9	
18.	<p>Draw the scenario at first</p> <p>After 516 ducks were sold: </p> <p>516 ducks correspond to $1\frac{1}{2}$ of a unit. To find how many fowls make 1 unit: $\frac{516}{3} \times 2 = 344$ Chickens make 5 units: $344 \times 5 = 1720$ There were 1720 chickens in the farm.</p>	1720 [chickens]	

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