

Math Challenge #14

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.

1.

a.  = 3

b.  = 2

2.

a.  = 5  = 11

b.  = 8  = 16

c.  = 7  = 19

3.

a.  = 5

 = 2

b.  = 3

 = 7

4.

 = 9  = 4


 = 4  = 4

5.

a.  = 8

 = 3

b.  = 6


 = 15

 = 27


6.

 = 7  = 1


 = 8  = 9

 = 4

7.

 = 5

 = 4




8.	Use the second scales to find that  = 65. From the first scales  = 35 The last scales will have $3 \times 35 = 105$	105
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9.	$7+5=12$ $4+7=11$	
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10.	Add the equations together, you'll find that  is 50. Then  = 5	 = 5
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11.	From the second scales  = 9 lb. From the first scales  = 6 lbs. Then, half of the pineapple is 3 lbs.	 = 3 lbs.
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12.	 = 6  = 8	
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13.	<p>a.</p> $\begin{array}{r} \boxed{5} \boxed{4} \\ \times \boxed{3} \boxed{3} \\ \hline \boxed{1} \boxed{6} \boxed{2} \\ + \boxed{1} \boxed{6} \boxed{2} \boxed{0} \\ \hline \boxed{1} \boxed{7} \boxed{8} \boxed{2} \end{array}$ <p>b.</p> $\begin{array}{r} \boxed{3} \boxed{9} \\ \times \boxed{4} \boxed{6} \\ \hline \boxed{2} \boxed{3} \boxed{4} \\ + \boxed{1} \boxed{5} \boxed{6} \boxed{0} \\ \hline \boxed{1} \boxed{7} \boxed{9} \boxed{4} \end{array}$	 = 3  = 3  = 6
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14.	<p>a. $11 \times 11 = 121$; $22 \times 11 = 242$. $33 \times 11 = 363$; $44 \times 11 = 484$</p> <p>Possible value of  is 1. Possible value of  is 1, 2, 3 and 4.</p> <p>b. $111 \times 11 = 1221$; $222 \times 11 = 2442$ $333 \times 11 = 3663$; $444 \times 11 = 4884$</p> <p>Possible value of  is 1. Possible value of  is 1, 2, 3 and 4.</p>	<p>a.  = 1, 2, 3, 4  = 1  = 2, 4, 6, 8</p> <p>b.  = 1, 2, 3, 4  = 1  = 2, 4, 6, 8</p>
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15.	Start with the second balance: Half of an apple worth $40 \div 5 = 8$ 1 apple worth $2 \times 8 = 16$ 3 apples worth $3 \times 16 = 48$ 3 apples = 1.5 pineapple, so 1.5 pineapples worth 48. 1 pineapple worth $48 \div 1.5 = 32$ 1 pineapple + 2 apples = $32 + 32 = 64$	64
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16.		a, d, f
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