TOPIC: MAP

QUERY: Our school is considering ways to collect data on student growth in mathematics from Grades 1-5. We have experimented with MAP, but felt it didn't work for us. Does anyone out there have an assessment that they use successfully to measure progress from start to end of year?

QUERY SUBMITTED AND COLLATED BY: Sam Cook
Elementary Vice Principal
International School of Tanganyika

TOTAL NUMBER OF RESPONSES: 13

Thanks for your responses to my inquiry – MAP is rather popular it seems!

To respond to some of the questions posed in the responses below, the main issue with MAP for us was scheduling and the time demands. We already do ISAs in October, but these do not give an indication of growth during one school year. We use EveryDay Math as our core resource and already use a lot of the assessment material therein. However, it tends to be language heavy for a high EAL population, and we are striving to move away from this programme to create our own math unit planners.

- A colleague in school happened upon the attached Excel Math Placement Tests just after our in-school discussion, and we’re going to give it a shot. It meets the following criteria for us:
  - Manageable – should be able to be administered in a single teaching period. Number strand only
  - Not language heavy – EAL learners can access
  - Can give same assessment at start and end of year - will generate easily comparable numerical data
  - Can use Grade appropriate test plus one page of next for extended learners

INDIVIDUAL RESPONSES:

<table>
<thead>
<tr>
<th>School</th>
<th>Response</th>
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</thead>
<tbody>
<tr>
<td>International Community School of Addis Ababa</td>
<td>We do MAP here. It is a hassle for scheduling and so on but provides really useful information for teachers. Sorry we can't be more helpful.</td>
</tr>
<tr>
<td>American Cooperative School of Tunis</td>
<td>We use MAP and it works very well for us but we give it three times a year to gauge growth. For American curriculum schools (Common Core, AERO, etc.) it aligns perfectly.</td>
</tr>
<tr>
<td>International School of Krakow</td>
<td>Sorry for not having a revelation for you, but we at the International School of Krakow use the MAP as well. We also give the end - of - year test for each grade level of the Everyday Mathematics program we use. We would be very interested in the results of your survey.</td>
</tr>
<tr>
<td>School Name</td>
<td>Description</td>
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<tr>
<td>K. International School Tokyo</td>
<td>We run the KS tests from the UK, accessible online (tests and mark schemes), 3 times a year to get data. It is working for us – a lot of work though to implement, mark, coordinate.</td>
</tr>
<tr>
<td>San Roberto Instituto</td>
<td>We use the Everyday math end of year assessment at the beginning of the next school year to see where we are and how far we have come. For example a grade 4 student will take the grade 3 end of year assessment at the beginning of grade 4. This coupled with the MAP is how we see growth.</td>
</tr>
<tr>
<td>Pan American School of Bahia</td>
<td>We use the assessments that come along with Pearson Envision. They have an online component called Successnet. Students take the tests online, so it gives a standard by standard read out of the students abilities. We use the common core standards, and the program is specific to common core.</td>
</tr>
<tr>
<td>Country Day School</td>
<td>We’re rolling out MAP testing here and so I’m curious to know what about MAP testing didn’t work in your school setting. Would appreciate you dropping me a line about this so I can reflect on others’ experience!</td>
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<tr>
<td>Escazu, Costa Rica</td>
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<tr>
<td>Colegio Gran Bretaña</td>
<td>We are just about to start using the CAT4 tests. This won't measure progress per se - but what it DOES do is give a predicted Estimated Minimum Grade so that every time a piece of work is done and graded, it will be measured against this EMG - and the student in question, instead of the person they sit next to. So it ensures that every piece of work is either at LEAST hitting the EMG, or improving. A great tool to make realistic targets.</td>
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<tr>
<td>Melissa Maples</td>
<td>Great question, Sam! We are currently asking the same thing at our school. In elementary, we use the year-end assessment with the Everyday Math program. However, there is growing talk about developing common assessments. I’d love to see everyone’s responses!</td>
</tr>
<tr>
<td>The American International School of Jeddah</td>
<td>My name is Laura King and I am the principal of The American International School of Jeddah. I would be very interested in any resources shared with you. We too use the MAP but it does not provide us the full information that would be helpful to us. Thanks for initiating this inquiry.</td>
</tr>
<tr>
<td>School</td>
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| The International School of Latvia | Interesting topic, we used to use the ISA but we felt that did not work for us so we switched to the MAP.  
We are currently using MAP at the moment, so I apologise for not being able to offer much except we feel MAP was better than ISA.  
However each school is different, the link is here: [http://www.acer.edu.au/isa](http://www.acer.edu.au/isa) |
| International School of Kenya  | We have written our own around the critical areas in math for each grade (about 10 - 12 problems with varying DOK levels.)                  |
| Qatar Academy                  | QA uses a diagnostic test from NZ. It’s administered one-on-one, and gives fantastic info about a student’s abilities and strategies, so the teacher knows exactly what they need next.  
More info here: [http://nzmaths.co.nz/node/1599](http://nzmaths.co.nz/node/1599) |
Excel Math Placement Tests
A grade-level evaluation tool

Attached are six tests that can be used to evaluate a student’s preparedness for Excel Math. The tests are labeled A - F, which correspond to first - sixth grade. The test questions cover concepts that are considered review from the prior year.

A note about Excel Math concept strategy:

Typically the first six weeks of a grade will review content presented during the first two-thirds of the prior year. If students have trouble with the evaluation test for a particular grade, it shows they have only a partial grasp of the previous year’s work. It may be difficult for them to work through one lesson per day.

After the first six weeks, the Lesson Sheets will introduce new concepts and concepts from the end of the prior year; therefore, progress will be slower than the first six weeks.

The evaluation tests are cumulative. Sometimes concepts are not tested because the students have already shown mastery on the test for the prior year.

We suggest you give students one or more tests depending on your knowledge of their ability level. We also recommend you administer basic fact timed tests as a part of the readiness assessment.

There are more factors involved in measuring a student’s grade level readiness than how they score on these tests. However as a general rule, as the student progresses through the tests, the last placement test that the student completed successfully indicates their current grade level readiness. Success would be defined as answering most of the 20 problems correctly.

Test A. Successful completion demonstrates readiness for first grade and covers the following concepts:
• writing the numerals 0 - 9
• counting up to 20 items
• recognizing how the number of items in one set compares to the number of items in another set
• filling in missing one-digit numbers in sequences when counting up or down by one
• addition facts with sums less than eleven
• subtraction facts with minuends less than 6
• recognizing circles, squares, triangles and rectangles
**Test B.** Successful completion demonstrates readiness for second grade and covers the following concepts:

- recognizing any number words for numbers (without a hyphen) less than 100
- calculating a number one more or less than another two-digit number
- recognizing the symbols: $<$, $>$, and $=$
- putting three numbers in order from least in value to greatest in value
- addition facts with sums less than 16
- subtraction facts with minuends less than twelve
- subtraction of two-digit numbers, without regrouping
- addition of two-digit numbers, with regrouping with sums of ten
- one-step addition and subtraction story problems

A basic fact timed test on addition facts with sums up to ten and one on subtraction facts with minuends up to ten.

**Test C.** Successful completion demonstrates readiness for third grade and covers the following concepts:

- recognizing place value for ones, tens, and hundreds
- recognizing any number words for numbers less than 100
- filling in missing two-digit numbers in sequences when counting by 1, 2, 5, or 10
- recognizing the symbols: $<$, $>$, $=$, and $\neq$
- putting four two-digit numbers in order from least value to greatest value
- addition facts with sums up to 18
- subtraction facts with minuends up to 18
- addition of two-digit numbers with regrouping using addition facts with sums up to 18
- subtraction of two-digit numbers with regrouping using subtraction facts with minuends up to 13
- addition and subtraction of three-digit numbers, without regrouping

A basic fact timed test on addition facts with sums up to 18 and one on subtraction facts with minuends up to 18.

**Tests D1 & D2.** Successful completion demonstrates readiness for fourth grade and covers the following concepts:

- recognizing place value for ones, tens, hundreds, and thousands
- recognizing any number words for numbers less than 10,000
- filling in missing two-digit numbers in sequences when counting by 1, 2, 3, 4, 5, or 10
- putting three four-digit numbers in order from least value to greatest value and from greatest value to least value
- addition of four-digit numbers when the sum to be regrouped is greater than 20
- subtraction of four-digit numbers with regrouping
- multiplication of a three-digit number by a one-digit number, regrouping twice, using the multiplication facts with products up to 30 or products with 5 as a factor
- division facts with dividends up to 20 and dividends with 5 as a factor
- division with a one-digit divisor, one-digit quotient with a remainder and a dividend less than 20
- division with a one-digit divisor, two-digit quotient and a dividend less than 100, no regrouping or remainders, using division facts less than ten
- recognize numerator and denominator
- recognize odd and even numbers less than 100
- calculating the number of fractional parts in a whole
- calculating one half of a group of items
- calculating the time before or after the hour
- filling in missing numbers in simple algebraic equations
- two-step story problems involving addition, subtraction, multiplication or division
A basic fact timed test on multiplication facts with products up to 30 and one on division facts with dividends up to 20 and dividends with 5 as a factor.

**Tests E1 & E2.** Successful completion demonstrates readiness for fifth grade and covers the following concepts:
- recognizing place value up through trillions
- recognizing any number words for numbers less than one million
- filling in missing three-digit numbers in sequences when counting by 1 - 12 or by varying differences
- comparing four-digit numbers using the symbols: <, >, =, and ≠
- multiplication of a two-digit number by a two-digit number
- division with a one-digit divisor, four-digit dividend and a three-digit quotient with regrouping and remainders, using division facts with dividends up to 50 and dividends with 10 (up to 90), 11 (up to 99) and 12 (up to 48) as factors
- division with a two-digit divisor, a one-digit quotient and a dividend less than 100 with remainders
- addition and subtraction of mixed numbers with like denominators
- changing improper fractions to mixed numbers
- completing fractions for equivalent fractions
- rounding two-digit numbers to the nearest ten
- filling in missing numbers in algebraic equations involving parentheses
- calculating area and perimeter for a rectangle that has been drawn to scale
- recognizing faces, edges and vertices on three-dimensional figures
- identifying diagonals and lines that are perpendicular or parallel
- multi-step story problems

A basic fact timed test on multiplication facts with products up to 81 and one on division facts with dividends up to 50 and dividends with 10 (up to 90), 11 (up to 99) and 12 (up to 48) as factors.

**Tests F1 & F2.** Successful completion demonstrates readiness for sixth grade and covers the following concepts:
- recognizing the tenths, hundredths and thousandths places
- multiplication of a three-digit number by a three-digit number
- division with a one-digit divisor, four-digit dividend and a three-digit quotient with regrouping and remainders, using division facts with dividends up to 81
- division with a two-digit divisor, a two-digit quotient and a three-digit
- recognizing, equilateral, isosceles and scalene triangles
- multiplication of fractions
- addition and subtraction of decimal numbers
- addition and subtraction of mixed numbers with unlike denominators
- solving story problems using averages and reasoning

A basic fact timed test on multiplication facts with products up to 81, including regrouping addition, one on division facts with dividends up to 81, and one on division facts with dividends up to 50, including regrouping subtraction.

www.excelmath.com 3 1-866-866-7026
Fill in the missing numbers.

6. (2, 3, 4, ______, ______)
7. (10, 9, 8, ______, ______)

8. \[\begin{align*} &3 + 4 \\ &9 + 1 \end{align*}\]
9. \[\begin{align*} &9 + 1 \\ &7 + 2 \end{align*}\]
10. \[\begin{align*} &7 + 2 \\ &0 + 6 \end{align*}\]
11. \[\begin{align*} &0 + 6 \\ &5 + 5 \end{align*}\]

13. \[\begin{align*} &5 - 3 \\ &- 3 \end{align*}\]
14. \[\begin{align*} &3 - 0 \\ &- 0 \end{align*}\]
15. \[\begin{align*} &4 - 4 \\ &- 4 \end{align*}\]

16. Which choice has 1 more than the number of triangles shown above?
17. Which choice has 1 less than the number of triangles shown above?
18. Which choice has the same number of triangles shown above?

A. 
B. 
C. 
D. 
E. 

19. Put an X on the circle.
20. Draw a line around the triangle.
1. 14 20 + 34  
2. 64 + 16  
3. 5 + 9  
4. 7 + 4  
5. 21 + 9  
6. 5 + 3  

7. 86 - 25  
8. 94 - 30  
9. 10 - 6  
10. 11 - 9  
11. 8 - 2  

12. Put the numbers in order from least to greatest.  
(27, 80, 19)  

13. Select the correct symbol >, <, =.  
19 __ 91  

14. What number is one more than twelve?  

15. What number is one less than ten?  

16. forty  
17. thirteen  

18. Fill in the missing numbers.  
(17, 18, 19, ____, ____ )  

19. Eleven children were playing. Three went home. How many children are still playing?  

20. Paul drove six miles. Ann drove seven miles. How many miles did they drive in all?
<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 ones and 2 hundreds</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5 hundreds and 6 tens</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>two hundred seventy</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>one hundred three</td>
<td></td>
</tr>
</tbody>
</table>

5. Fill in the missing numbers.
   - \((____, ____), 51, 53, 55\)
   - \((80, 85, 90, ____), ____\)

6. Circle any number sentences that are true.
   - \(24 \neq 24\)
   - \(43 < 34\)
   - \(56 < 65\)
   - \(78 = 87\)

7. Put the numbers in order from least to greatest.
   - \((76, 57, 67, 56)\)

8. \(\begin{array}{cc}
   4 & 3 & 6 \\
   + & 2 & 5 & 0 \\
   \hline
   6 & 8 & 6
\end{array}\)

9. \(\begin{array}{cc}
   2 & 1 \\
   + & 1 & 3 & 2 \\
   \hline
   3 & 4 & 3
\end{array}\)

10. \(\begin{array}{cc}
   2 & 4 \\
   + & 1 & 9 \\
   \hline
   3 & 3
\end{array}\)

11. \(\begin{array}{cc}
   3 & 8 \\
   + & 2 & 7 \\
   \hline
   6 & 5
\end{array}\)

12. \(\begin{array}{cc}
   4 & 6 \\
   + & 4 & 6 \\
   \hline
   9 & 2
\end{array}\)

13. \(\begin{array}{cc}
   1 & 9 \\
   + & 4 & 9 \\
   \hline
   6 & 8
\end{array}\)

14. \(\begin{array}{cc}
   8 & 5 & 2 \\
   - & 6 & 0 & 2 \\
   \hline
   2 & 5 & 0
\end{array}\)

15. \(\begin{array}{cc}
   7 & 8 & 9 \\
   - & 6 & 3 & 8 \\
   \hline
   1 & 5 & 1
\end{array}\)

16. \(\begin{array}{cc}
   4 & 3 \\
   - & 2 & 8 \\
   \hline
   1 & 5
\end{array}\)

17. \(\begin{array}{cc}
   5 & 0 \\
   - & 9 \\
   \hline
   4 & 1
\end{array}\)

18. \(\begin{array}{cc}
   7 & 2 \\
   - & 5 & 4 \\
   \hline
   1 & 8
\end{array}\)

19. Matt went to the store and bought three pounds of apples, two pounds of pears and seven pencils. How many pounds of fruit did he buy?

20. Angela has six pens. Rachel has eight pens. Kate has nine pens. How many more pens does Kate have than Angela?
<table>
<thead>
<tr>
<th>Placement Test D1</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 thousands and 6 tens</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5 ones, 3 thousands, and 6 hundreds</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>one thousand, eight</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>four thousand, ninety</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Put the numbers in order from greatest to least.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3,242; 3,224; 4,342; 4,324)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(87, 84, 81, ____, ____ )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(____, ____, 21, 26, 31,)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>(87, 84, 81, ____ , ____ )</td>
<td></td>
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<tr>
<td>7</td>
<td>(____, ____ , 21, 26, 31,)</td>
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<tr>
<td>8</td>
<td>3,765</td>
<td>4,621</td>
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<tr>
<td></td>
<td>858</td>
<td>1,818</td>
</tr>
<tr>
<td></td>
<td>1,597</td>
<td>1,239</td>
</tr>
<tr>
<td></td>
<td>+ 629</td>
<td>+ 809</td>
</tr>
<tr>
<td>9</td>
<td>4,621</td>
<td>5,000</td>
</tr>
<tr>
<td>10</td>
<td>1,239</td>
<td>- 2,718</td>
</tr>
<tr>
<td>11</td>
<td>900</td>
<td>- 126</td>
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<tr>
<td>12</td>
<td>402</td>
<td>617</td>
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<tr>
<td></td>
<td>- 179</td>
<td>- 218</td>
</tr>
<tr>
<td>13</td>
<td>123</td>
<td>562</td>
</tr>
<tr>
<td></td>
<td>x 8</td>
<td>x 4</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
<td>9</td>
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<tr>
<td>15</td>
<td>2</td>
<td>68</td>
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<tr>
<td>16</td>
<td>4</td>
<td>84</td>
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<tr>
<td>17</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>68</td>
</tr>
<tr>
<td>19</td>
<td>3</td>
<td>90</td>
</tr>
</tbody>
</table>
Fill in the missing numbers.

<p>| | | | | | | |</p>
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<tbody>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circle the denominator.</td>
<td>Circle the even numbers in the set.</td>
<td>3 \times Y = 18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ \frac{4}{5} ]</td>
<td>(23, 68, 74, 35, 56)</td>
<td>Y =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Three pies are cut into sixths. How many pieces will there be?

It is _____ minutes before _____ o'clock.

Bob has ten crayons. One-half of them are red. How many red crayons does he have?

Carlos has six pieces of string that are each three feet long. How many feet of string does he have?

Cameron bought a package of fifteen stickers and divided them evenly among his three sisters. How many stickers did each sister get?

Sierra had $8.00. She spent $2.76 at one store and $3.82 at another. How much money does she have now?

Circle the even numbers in the set.

Circle the denominator.

Three pies are cut into sixths. How many pieces will there be?

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Sierra had $8.00. She spent $2.76 at one store and $3.82 at another. How much money does she have now?
1. Fill in the missing numbers. (_______, ________, 235, 244, 253, 262)

2. Circle which statements are not true.
   - $9 - 3 \not= 24 \div 4$
   - $7 \times 6 > 5 \times 8$
   - $7 - 2 < 8 \div 2$

3. A parallelogram has ____ sides.

4. An octagon has ____ sides.

5. Select the number from the given set to fill in the blank.
   (3,234; 3,423; 3,342; 3,243)
   - $3,343 < ________$

6. $8 6 7 \times 8$

7. $8 3 \times 4 9$

8. \[15 \overline{79}\]

9. \[3 \frac{3}{4} - 1 = \]

10. \[2 \frac{1}{8} + 1 \frac{4}{8} = \]

11. Complete each fraction.
   - $\frac{3}{9} = \square$
   - $\frac{3}{5} = \square \div 10$

12. Simplify each improper fraction.
   - $\frac{9}{4} = \square$
   - $\frac{11}{9} = \square$

13. \[6 \overline{27}\]

14. \[2 \overline{76}\]

15. \[4 \overline{938}\]

16. \[3 \overline{285}\]
17. Round to the nearest ten.
   43  _____  95  _____  26  _____

18. \((6 \times 6) \div 4 = _____ + (12 \div 4)\)

19. \((32 \div 4) \times _____ = (42 \div 7) \times 4\)

20. 6 feet
    4 feet

   \text{perimeter} = \underline{_______} \quad \text{area} = \underline{_______} \quad \text{name} = \underline{_______}

21. A rectangular prism has \underline{_______} faces.

22. A square pyramid has \underline{_______} vertices.

23. Identify a diagonal. \underline{_______}

   Identify 2 lines that are parallel. \underline{_______}

   Identify 2 lines that are perpendicular. \underline{_______}

24. 4 ten thousands, 5 hundreds, 6 ones and 3 hundred thousands

   three hundred seven thousand, sixty-one

25. David baked 48 cookies. He gave seven to each of his five friends. How many cookies does he have left?

26. Patrick had a twenty-dollar bill and a ten-dollar bill. He bought three books that cost $4.89 each and a pen set that cost $5.74. How much money does he have left?

27. Thirteen girls and 17 boys want to go on a class trip. Each car will hold five children. How many cars will they need?
1. What is the lowest common multiple of 12 and 9? ________

2. \[4 \ 2.7 + 3.5 \ 8 = \]

3. \[1 \ 4 - .8 = \]

4. \[7 \ \frac{8}{9} - 2 \ \frac{5}{6} = \]

5. \[2 \ \frac{2}{3} + 1 \ \frac{1}{4} = \]

6. An isosceles triangle has _____ sides that are congruent.

7. \[\frac{3}{4} \times \frac{3}{7} = \]

8. 4 ones, 3 hundredths, 7 tenths, 4 thousands, 5 ten thousands, 2 thousandths

9. \[8 \ 6 \ 7 \times 6 \ 4 \ 8 \]

10. \[4 \ 7 \ 9 \times 3 \ 5 \ 7 \]

11. \[2 \ 4 \overline{3 \ 7 \ 8} \]

12. \[6 \overline{2,0 \ 7 \ 6} \]

13. \[8 \overline{1,3 \ 7 \ 0} \]

14. \[7 \overline{9 \ 6 \ 6} \]

15. Andrew wants to put carpet in a room that is 4 yards wide and 8 yards long. How many square yards of carpet will he need?

16. A bag holds four pounds of apples. A shipping crate holds six bags. How many pounds of apples will there be in seven crates?
17. Katelyn has to work 40 hours this week. So far she has worked for eight hours each day for three days and for seven hours on another day. How many more hours does she have to work this week?

18. Ben had a gardener come to his house and work for five hours at $8.50 an hour. He also had to buy $19.87 worth of plants. What was the total amount Ben spent?

19. On her last four history tests, Ann scored 88, 95, 92 and 89. What was her average score for the four tests?

20. Carlos divided 36 books equally among four children. Each child needs to have 11 books. How many more books will Carlos need to get?

21. Shirley has nine fewer stickers than Abby. Abby has seven more stickers than Cary. Cary has 28 stickers. How many stickers does Shirley have?

22. Brian is putting eight stamps on each page in a book. If he has 43 stamps, how many pages will be completely filled?

23. There are four cities on a map. Cole is east of Rock Point. Cole is west of Sanders. Mill Town is between Cole and Rock Point. Which city is the most eastern?

24. Ryan worked three more hours than Cameron. They worked a total of 15 hours. How many hours did each boy work?