Instructions for the Horizons Math Readiness Evaluation

The *Horizons Math Readiness Evaluation* helps to determine the level at which a student new to Horizons Math is ready to begin studying in the program. Here’s how the placement works. If a student successfully completes the readiness test for 3rd grade, then the student should be placed into the 3rd grade level.

Begin testing at the grade level the student should be in next. If the student does poorly, have them also take the test for the previous level, if a student is breezing though a test, have them attempt the test for the next level. Instructions for scoring and evaluating the results of the test are given on the answer key pages.

The test for each level should take from 30 to 60 minutes. Students should be able to complete the tests on their own with the instructor making sure that they understand the directions for each individual activity. See the First grade test for special instructions on giving that test orally and for scoring the activities.

As always, use some common sense in evaluating the scores. Look at the problems that have been missed. If all of the incorrect responses occurred in one or two types of problems then the student may simply need some remediation in those areas and should not be placed back a grade level. For enrichment of the identified areas of weakness, refer to the "Appearance of Concepts" in each of the Horizons Math Teacher Handbooks. It will locate lessons where these concepts were taught.
GRADE 1 Horizons Math Readiness Evaluation, Part A

This Readiness Evaluation helps the teacher to determine if the student is ready to begin studying math at the first grade level. The evaluation should take about 30 minutes. This is an oral evaluation with the exception of activities 2 and 3 in Part B. A break to rest and relax is recommended after completing Part A.

1. Draw a set of shapes: circle, square, triangle, rectangle, oval, octagon, star, heart, and diamond. Point to the four basic shapes (circle, square, triangle, and rectangle) and ask the student to identify each one. If the student recognizes all four basic shapes, ask him to tell you if he knows what any of the other shapes are called. Knowledge of the four basic shapes and at least familiarization with some of the others is satisfactory.

2. Use construction paper or colored items with the following ten colors: red, blue, yellow, green, orange, purple, brown, pink, black, and white. The student should be able to identify seven to ten colors correctly.

3. Use a set of objects that are different in size, height and thickness to evaluate the student’s ability to make comparisons. Ask which object is bigger or littler, larger or smaller, taller or shorter, thicker or thinner. Repeat the activity to determine whether the student comprehends the concept of comparison.

4. Use a large ball and ruler to ask the student a series of directional questions. Place the ruler in various positions corresponding to the ball and ask questions about location such as over, above, below, under, left, right, top and bottom.

5. Use pairs of items (clothing, pictures, blocks, or cut-out shapes) to evaluate the child’s ability to identify one-to-one correspondence and differences. Have the student match pairs or similar items such as red socks, yellow blocks, or green crayons.

6. Create two sets of two objects each, two sets of three objects each, a set of five objects, and a set of ten objects (toothpicks, blocks, etc.). Ask the student to select the set with the least number of items, the greatest number and two that are of equal number.

Students who successfully complete this part of the evaluation may proceed to Part B. Students who do not respond well to Part A should be placed in Horizons Math K to aid them in developing beginning math skills.
GRADE 1  Horizons Math Readiness Evaluation, Part B
(A number chart is helpful when administering this test. Students will need paper and pencil.)

The total number of points is listed in parentheses after the numbered item. On the line provided, write the number of points the student receives as the section is completed.

_______ 1. Have the student tell you the following numbers as you point to them on the number chart. a. 16 b. 13 c. 45 d. 27 e. 89 f. 30 (6 points)
_______ 2. Have the student write the numerals 1 to 10. (8 of 10 equals 1 point)
_______ 3. Have the student write the following numbers as you say them with the number chart visible. a. 4 b. 15 c. 39 d. 51 e. 80 (5 points)
_______ 4. Have the student count from 1 to 20 aloud. (16 of 20 equals 1 point)
_______ 5. Have the student count out loud:
   a. by 10’s to 100 (8 of 10 equals 1 point)
   b. by 5’s to 50 (8 of 10 equals 1 point)
   c. by 2’s to 20 (8 of 10 equals 1 point)
_______ 6. Ask the student these questions. (Each question equals 1 point)
   a. When you put two numbers together are you adding or subtracting?
   b. What is one more than 8?
   c. What is one more than 13?
   d. What is 27 plus one?
   e. What is 6 plus 0?
   f. What is 15 plus 0?
   g. What is 49 plus 0?
_______ 7. Ask the student these questions. (Each question equals 1 point)
   a. When you take one number away from another are you adding or subtracting?
   b. What is one taken away from 9?
   c. What is one less than 18?
   d. What is 52 minus 1?
   e. What is 4 minus 0?
   f. What is 12 minus 0?
   g. What is 0 taken away from 33?
_______ 8. Show the number; then, ask these questions. (Each question equals 1 point)
   a. This is a seven. What number comes after it?
   b. This is a fourteen. What number comes after it?
   c. This is a thirty-six. What number comes after it?
   d. This is a five. What number comes before it?
   e. This is a seventeen. What number comes before it?
   f. This is a twenty-five. What number comes before it?
   g. This is a four and this is a six. What number comes between them?
   h. This is forty-one and this is forty-three. What number comes between them?
   i. This is fifty-nine and this is sixty-one. What number comes between them?

_______ TOTAL POINTS

Students should achieve a minimum score of 24 out of a possible 39 points on this test. If they are unable to achieve this score, they should be placed in Horizons Math K to receive the preparation needed for the first grade curriculum.
1. **Write the numbers.**
   452 has a ____ in the ones' place.
   918 has a ____ in the hundreds' place.
   763 has a ____ in the tens' place.

2. **Write the numbers.**
   
   \[
   495 = \underline{\text{_____}} + \underline{\text{_____}} + \underline{\text{_____}}
   \]
   
   \[
   817 = \underline{\text{_____}} + \underline{\text{_____}} + \underline{\text{_____}}
   \]

3. **Write the correct time.**

   
   
   :               :               :               :

4. **Write the value of each coin.**

   
   
<table>
<thead>
<tr>
<th>Coin Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penny</td>
<td>1¢</td>
</tr>
<tr>
<td>Nickel</td>
<td>5¢</td>
</tr>
<tr>
<td>Dime</td>
<td>10¢</td>
</tr>
<tr>
<td>Quarter</td>
<td>25¢</td>
</tr>
<tr>
<td>Half Dollar</td>
<td>50¢</td>
</tr>
<tr>
<td>Dollar</td>
<td>100¢</td>
</tr>
</tbody>
</table>

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GRADE 2 Horizons Math Readiness Evaluation
5. Add.

\[
\begin{array}{cccccccc}
29 & 35 & 44 & 13 & 18 & 59 & 37 & 53 \\
+33 & +55 & +29 & +67 & +33 & +29 & +87 & +49 \\
38 & 63 & 58 & 47 & 92 & 97 & 43 & 42 \\
+88 & +99 & +42 & +77 & +19 & +88 & +27 & +77 \\
\end{array}
\]

6. Write = or ≠ between each set.

\[
\begin{align*}
3 + 7 & \quad 10 & 7 + 9 & \quad 16 & 5 + 9 & \quad 13 \\
4 + 9 & \neq 12 & 5 + 3 & = 9 & 6 + 8 & = 14 \\
\end{align*}
\]

7. Draw a line to match the shape to its name.

triangle
square
octagon
diamond
circle
oval
rectangle

GRADE 2 Horizons Math Readiness Evaluation
8. Subtract.

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<td>11</td>
<td>16</td>
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<td>57</td>
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<td>-35</td>
<td>-52</td>
<td>-20</td>
<td>-24</td>
<td>-43</td>
<td>-24</td>
<td>-27</td>
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</tbody>
</table>

9. Write the fractional part that is shaded.

- 
- 
- 
- 
- 
- 
- 

10. How many eggs are in a dozen? ____
11. Write < or > between each set.
   
   135 ___ 144   116 ___ 173
   173 ___ 167   183 ___ 200

12. Circle every third number after 7.
   
   7  8  9  10  11  12  13  14  15
   16 17 18 19 20 21 22 23 24
   25 26 27 28 29 30 31 32 33

   Write the circled numbers on the blanks.

   ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

13. Write the value of each set of coins.

   _____ ¢
   _____ ¢
   _____ ¢
   _____ ¢
1. **Write the temperature.**

   ![Temperature Scales]

   _____ ° _____ ° _____ ° _____ °

2. **Write the ratio.**

   butterflies to lambs : butterflies and birds to fish and lambs :

   birds to fish :

3. **Write the correct time.**

   ![Clocks]

   _____ : _____ : _____ : _____

4. **Write ones', tens', hundreds', or thousands'.**

   2,483 has a 8 in the ________ place.
   2,483 has a 2 in the ________ place.
   9,048 has a 8 in the ________ place.
   9,048 has a 0 in the ________ place.
5. **Name the shape. Draw a line of symmetry for each shape.**

<table>
<thead>
<tr>
<th>Square</th>
<th>Hexagon</th>
<th>Triangle</th>
<th>Oval</th>
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<tbody>
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6. **Write < or >.**

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<thead>
<tr>
<th>Quarter</th>
<th>Dime</th>
<th>Nickel</th>
<th>Penny</th>
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7. **Circle the next picture in sequence.**

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<thead>
<tr>
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<th>Diamond</th>
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<th>Diamond</th>
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<table>
<thead>
<tr>
<th>Circle</th>
<th>Triangle</th>
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<th>Triangle</th>
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<tr>
<th>Plus</th>
<th>Rectangle</th>
<th>Plus</th>
<th>Rectangle</th>
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</table>
8. **Find the area.**

8 square units  

8 square units  

8 square units

9. **Find the volume.**

8 cubic units  

8 cubic units  

8 cubic units

10. **Write what the shaded fractional part of the whole equals.**

_____ of _____ = _____  

_____ of _____ = _____
11. **Find the sum and difference.**

\[
\begin{array}{cccccccc}
5,145 & + & 3,369 & = & 8,514 \\
3,664 & + & 3,188 & = & 6,852 \\
4,573 & + & 5,157 & = & 9,730 \\
8,902 & - & 7,837 & = & 1,065 \\
9,731 & - & 4,652 & = & 5,079 \\
6,924 & - & 1,539 & = & 5,385 \\
\end{array}
\]

12. **Find the product.**

\[
\begin{array}{cccccccc}
3 & \times & 3 & = & 9 \\
7 & \times & 0 & = & 0 \\
5 & \times & 9 & = & 45 \\
6 & \times & 6 & = & 36 \\
8 & \times & 4 & = & 32 \\
3 & \times & 4 & = & 12 \\
2 & \times & 9 & = & 18 \\
4 & \times & 4 & = & 16 \\
3 & \times & 7 & = & 21 \\
\end{array}
\]

13. **Write the name of the solid.**

- Sphere
- Cone
- Cube
- Pyramid
- Cylinder

14. **Write the answers.**

Is 23 closer to 20 or 30? ____
Is 62 closer to 60 or 70? ____
Is 51 closer to 50 or 60? ____
Is 38 closer to 30 or 40 ____
Is 87 closer to 80 or 90 ____
Is 46 closer to 40 or 50? ____

15. **Write the Arabic numbers.**

<table>
<thead>
<tr>
<th>Arabic Number</th>
<th>Roman Numeral</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCCXCV</td>
<td>XXXVI</td>
</tr>
<tr>
<td>LXXIV</td>
<td>CXXVII</td>
</tr>
<tr>
<td>DCCCCLXIX</td>
<td>DCXLII</td>
</tr>
</tbody>
</table>

16. In the rose garden, there were seven hundred forty-seven red rose buds. There were five hundred eighty-three yellow rose buds. How many more red rose buds were there than yellow?

Mr. Nelson asked mother to buy 15 bunches of carrots for $4.83. Mother bought 12 heads of lettuce for $8.36. Junior asked his mother to buy tomatoes for $2.62. How much would mother’s bill be for the three items?
1. Write the problems vertically. Find the sum.

   \[32 + 7,861 + 504 = \]
   \[4,267 + 86 + 351 = \]
   \[736 + 2,815 + 49 = \]

2. Reduce the fractions.

   \[
   \frac{12}{15} = \frac{12 \div \underline{\hspace{1cm}}}{15 \div \underline{\hspace{1cm}}} = \frac{\underline{\hspace{1cm}}}{\underline{\hspace{1cm}}} \\
   \frac{18}{24} = \frac{18 \div \underline{\hspace{1cm}}}{24 \div \underline{\hspace{1cm}}} = \frac{\underline{\hspace{1cm}}}{\underline{\hspace{1cm}}} \\
   \frac{25}{40} = \frac{25 \div \underline{\hspace{1cm}}}{40 \div \underline{\hspace{1cm}}} = \frac{\underline{\hspace{1cm}}}{\underline{\hspace{1cm}}} 
   \]

3. Find the difference and check.

   \[5,970 - 2,156 = 8,075 - 4,341 = 8,900 - 5,341 = 9,007 - 5,921 = 6,080 - 1,577 = 6,900 - 5,341 = 4,006 - 2,453 = \]

4. Write < or >.

   \[378,614 \hspace{1cm} 378,914 \hspace{1cm} 940,156 \hspace{1cm} 940,153 \hspace{1cm} 537,298 \hspace{1cm} 537,289 \hspace{1cm} 259,076 \hspace{1cm} 295,076 \hspace{1cm} 861,439 \hspace{1cm} 864,139 \hspace{1cm} 713,928 \hspace{1cm} 613,928 \]

5. Find the product.

   \[431 \times 10 = \underline{\hspace{1cm}} \hspace{1cm} 4,006 \times 0 = \underline{\hspace{1cm}} \hspace{1cm} 71 \times 1,000 = \underline{\hspace{1cm}} \hspace{1cm} 54 \times 100 = \underline{\hspace{1cm}} \hspace{1cm} 258 \times 1,000 = \underline{\hspace{1cm}} \hspace{1cm} 1,278 \times 10 = \underline{\hspace{1cm}} \hspace{1cm} 369 \times 100 = \underline{\hspace{1cm}} \hspace{1cm} 300,010 \times 0 = \underline{\hspace{1cm}} \]
6. Find the quotient.

$$\begin{array}{cccc}
4 \div 11 & 5 \div 38 & 3 \div 25 & 7 \div 23 \\
8 \div 46 & 9 \div 33 & \\
\end{array}$$

7. Write the correct time.

$$\begin{array}{cccc}
\quad & \quad & \quad & \\
\quad & \quad & \quad & \\
\quad & \quad & \quad & \\
\quad & \quad & \quad & \\
\quad & \quad & \quad & \\
\end{array}$$

8. Write $=$ or $\neq$.

$$\begin{array}{cccc}
\frac{4}{6} & \quad & \frac{2}{10} & \quad \\
\quad & \quad & \frac{5}{25} & \quad \\
\frac{3}{4} & \quad & \frac{9}{16} & \quad \\
\frac{10}{16} & \quad & \frac{5}{7} & \quad \\
\end{array}$$

9. Round the numbers to the nearest 10.

$$\begin{array}{cccc}
186 & \quad & 4,235 & \quad \\
\quad & \quad & \quad & \quad \\
79 & \quad & \quad & \quad \\
\quad & \quad & \quad & \quad \\
23,498 & \quad & \quad & \quad \\
\end{array}$$

10. Round the numbers to the nearest 100.

$$\begin{array}{cccc}
2,386 & \quad & 524 & \quad \\
\quad & \quad & \quad & \quad \\
71,253 & \quad & \quad & \quad \\
\quad & \quad & \quad & \quad \\
483,961 & \quad & \quad & \quad \\
\end{array}$$
11. Joseph had 8 guppies, 3 red swordtails, 5 black mollies, and 6 goldfish in his fish tank.

What is the ratio of guppies to swordtails? ________
What is the ratio of goldfish to black mollies? ________
How many fish were in the tank? ________
What is the ratio of black mollies to all the fish? ________

12. Write the place value of the 8 in each number.

<table>
<thead>
<tr>
<th>Number</th>
<th>Place Value of 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>351,643,587</td>
<td>8</td>
</tr>
<tr>
<td>843,721,546</td>
<td></td>
</tr>
<tr>
<td>529,823,146</td>
<td></td>
</tr>
<tr>
<td>936,295,810</td>
<td></td>
</tr>
<tr>
<td>415,498,712</td>
<td></td>
</tr>
<tr>
<td>275,467,058</td>
<td></td>
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<tr>
<td>168,152,364</td>
<td></td>
</tr>
<tr>
<td>486,251,739</td>
<td></td>
</tr>
</tbody>
</table>

13. Write the mixed number illustrated.

<table>
<thead>
<tr>
<th>Mixed Number</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>n + 4 = 10</td>
<td><img src="image1" alt="Mixed Number 1" /></td>
</tr>
<tr>
<td>n + 10 = 24</td>
<td><img src="image2" alt="Mixed Number 2" /></td>
</tr>
<tr>
<td>n - 8 = 16</td>
<td><img src="image3" alt="Mixed Number 3" /></td>
</tr>
<tr>
<td>n - 4 = 12</td>
<td><img src="image4" alt="Mixed Number 4" /></td>
</tr>
</tbody>
</table>

14. Solve the equations.

n + 4 = 10 \quad n + 10 = 24 \quad n - 8 = 16 \quad n - 4 = 12

15. Find the sum.

\[
\frac{3}{8} + \frac{4}{8} = \quad \frac{2}{7} + \frac{4}{7} = \quad \frac{5}{9} + \frac{2}{9} = \quad \frac{7}{10} + \frac{1}{10} =
\]
16. Find the difference.

\[
\begin{array}{cccccccc}
7 & 4 & 6 & 5 & 8 & 3 & 9 & 7 \\
8 & 5 & 9 & 7 & 10 & 6 & 12 & 11 \\
-3 & -2 & -1 & -4 & -5 & -2 & -6 & -2 \\
8 & 5 & 9 & 7 & 10 & 6 & 12 & 11 \\
\end{array}
\]

17. Subtract 100 from each number.

\[
\begin{array}{cccc}
2,386 & 189 & 57,463 & 986,754 \\
2,386 & 189 & 57,463 & 986,754 \\
\end{array}
\]

18. Find the product.

\[
\begin{array}{cccc}
592 & 481 & 736 & 246 & 137 & 182 \\
5 & 7 & 4 & 8 & 3 & 6 \\
\end{array}
\]

19. Karen spent 3 nights at the Sunset Hotel in Chicago. She paid $78.00 a night. How much did it cost her to stay at the hotel?

Frank saw a bicycle for $79.86. Two weeks later it was on sale for $65.98. How much would he save if he bought it while it was on sale?
1. Find the quotient.

\[
\begin{align*}
4 \bigg) \overline{24.08} & \quad 2 \bigg) \overline{2.38} & \quad 3 \bigg) \overline{23.67} & \quad 11 \bigg) \overline{26.07} & \quad 15 \bigg) \overline{77.70} \\
\end{align*}
\]

2. Estimate by rounding two-digit numbers to the 10's and three-digit numbers to the 100's.

\[
\begin{align*}
8\bigg) \overline{678} & \quad 14\bigg) \overline{896} & \quad 87\bigg) \overline{913} & \quad 28\bigg) \overline{609} & \quad 18\bigg) \overline{792} \\
\end{align*}
\]

3. Draw a picture to solve the problem.

Four girls were in line for the movies. Dottie was behind Elaine. Karen was last. Tami was ahead of Elaine. Who was first in line?

4. Match. Place the appropriate letter next to the definition.

___ 1. 1665 a. 12:00 midnight to 12:00 noon.
___ 2. BC b. Anno Domini—in the year of our Lord
___ 3. AD c. 1 hour
___ 4. decade d. 1 minute
___ 5. century e. eight-sided figure
___ 6. millennium f. 3-sided figure
___ 7. 60 minutes g. 1,000 years
___ 8. 24 hours h. 10 years
___ 9. 60 seconds i. Before Christ
___ 10. AM j. 17th century
___ 11. pentagon k. five-sided figure
___ 12. hexagon l. 1 day
___ 13. octagon m. 100 years
___ 14. triangle n. four-sided figure
___ 15. quadrilateral o. six-sided figure
1. Name two angles that are acute. ____________________________________________
2. Name two angles that are right angles. ______________________________________
3. Name two lines that are parallel. ____________________________________________
4. Name two lines that are perpendicular. _______________________________________

5.

1. Name the circle. _____
2. The diameter is 4 cm. What is the length of $\overline{XD}$? ______
3. What is the length of $\overline{CX}$? _____
4. Name the diameter. _____
5. Circle M is twice as big as the circle pictured above. What is the diameter of Circle M? _____

6.
7. Draw a similar and congruent figure. Draw the lines of symmetry.

![Diagram of a figure with lines of symmetry drawn]

8. Find the perimeter and area of figure A. Find the volume of figure B.

Figure A

![Rectangle with sides labeled 10 inches and 20 inches]

Figure B

![Cube with cm label]

9. Give the missing numerator or denominator.

Find the equal ratios by multiplying.

\[
\frac{3}{9} = \frac{9}{n} \quad \frac{2}{3} = \frac{28}{n} \quad \frac{6}{8} = \frac{n}{64} \quad \frac{1}{9} = \frac{9}{n}
\]

10. Find the sum or difference. Make sure the answer is in lowest terms.

\[
\frac{2}{3} + \frac{1}{3} = \quad \frac{8}{10} - \frac{4}{10} = \quad \frac{9}{12} - \frac{3}{12} = \\
\frac{5}{7} + \frac{1}{7} = \quad \frac{7}{14} + \frac{6}{14} = \quad \frac{7}{9} + \frac{6}{9} = 
\]
11. Find the sum. Make sure the answer is in lowest terms.

\[
\begin{align*}
\frac{1}{4} + \frac{2}{8} &= \frac{1}{2} \\
\frac{5}{15} + \frac{1}{3} &= \frac{1}{1} \\
\frac{6}{10} + \frac{1}{5} &= \frac{2}{5}
\end{align*}
\]

\[
\begin{align*}
\frac{2}{12} + \frac{2}{4} &= \frac{1}{3} \\
\frac{2}{3} + \frac{1}{12} &= \frac{1}{2} \\
\frac{2}{5} + \frac{1}{3} &= \frac{4}{15}
\end{align*}
\]

12. Find the sum or difference. Reduce to lowest terms.

\[
\begin{align*}
5 \frac{2}{6} + 12 \frac{3}{7} - 9 \frac{5}{6} + 38 \frac{7}{12} - 16 \frac{5}{9} &= \frac{1}{2} \\
+ 3 \frac{1}{6} + 16 \frac{2}{7} - 9 \frac{2}{6} - 28 \frac{3}{12} - \frac{5}{9}
\end{align*}
\]

13. <, >, or =.

\[
\begin{align*}
4.9 &\bigcirc 4.1 \\
1.9 &\bigcirc 1.90 \\
9.03 &\bigcirc 9.33 \\
0.06 &\bigcirc 0.060
\end{align*}
\]

14. Find the sum or difference.

\[
\begin{align*}
48.902 + 4.342 &= 53.244 \\
465.001 + 233.021 &= 698.022 \\
30.956 - 29.824 &= 1.132 \\
7.76 - 0.94 &= 6.82
\end{align*}
\]

15. Complete.

<table>
<thead>
<tr>
<th>Kilo</th>
<th>Hecto</th>
<th>Deka</th>
<th>Basic Unit</th>
<th>deci</th>
<th>centi</th>
<th>milli</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Kilo</th>
<th>Hecto</th>
<th>Deka</th>
<th>Basic Unit (Meter, Liter or Gram)</th>
<th>deci</th>
<th>centi</th>
<th>milli</th>
</tr>
</thead>
</table>

\[
\begin{align*}
890 \text{ mm} &= \frac{890}{10} \text{ cm} \\
78.89 \text{ m} &= \frac{78.89}{100} \text{ cm} \\
587 \text{ mm} &= \frac{587}{1000} \text{ m} \\
8.54 \text{ km} &= \frac{8.54}{100} \text{ dm} \\
656 \text{ m} &= \frac{656}{10} \text{ mm} \\
7.001 \text{ m} &= \frac{7.001}{100} \text{ cm}
\end{align*}
\]
1. Match the most common definition with each picture.

1. Rhombus
2. Square
3. Equilateral Triangle
4. Scalene Triangle
5. Isosceles Triangle
6. Pentagon
7. Hexagon
8. Chord
9. Octagon
10. Prism

2. Find the surface area of the figure.

Use the picture above to answer the following questions.

1. Find the area of Side A.
2. Find the area of Side B.
3. Find the surface area of the box.
   Front _______________ x 2 _______________
   Top _______________ x 2 _______________
   Side _______________ x 2 _______________
   Total _______________
3. Write the sum or difference.

\[
\begin{array}{cccc}
3 \frac{1}{4} & 7 \frac{3}{8} & 16 \frac{2}{3} & 27 \frac{1}{3} \\
- 2 \frac{5}{16} & - 4 \frac{3}{4} & - 9 \frac{7}{9} & - 12 \frac{5}{8} \\
\end{array}
\]

\[
\begin{array}{cccc}
8 \frac{4}{7} & 13 \frac{6}{8} & 55 \frac{4}{5} & 29 \frac{6}{9} \\
+ 12 \frac{2}{3} & + 4 \frac{1}{2} & + 47 \frac{7}{8} & + 99 \frac{2}{3} \\
\end{array}
\]

4. Find the fraction of each number

\[
\begin{array}{cccc}
\frac{3}{4} \text{ of } 28 & \frac{1}{7} \text{ of } 63 & \frac{5}{8} \text{ of } 32 & \frac{4}{9} \text{ of } 81 \\
\end{array}
\]

5. Multiply or divide. Write the answers in simplest terms.

\[
\begin{array}{cccc}
\frac{2}{5} \times \frac{6}{7} & \frac{5}{8} \times \frac{5}{12} & \frac{5}{9} \times \frac{2}{3} & \frac{3}{4} \times \frac{1}{2} \\
\frac{1}{3} \div \frac{4}{7} & \frac{2}{5} \div \frac{1}{3} & 6 \div \frac{2}{3} & \frac{4}{9} \div 5 \\
\end{array}
\]
6. Use the circle to answer the following questions.

![Circle with labeled points X, T, Y, A, B]

1. Name the diameter.
2. Name a chord other than the diameter.
3. Name a radius.
4. If the diameter is 6 cm, what is the radius?

7. Define the figure and tell the number of faces, edges, and vertices. You may choose from the following names: rectangular pyramid, triangular pyramid, hexagonal pyramid, triangular prism, or cube.

<table>
<thead>
<tr>
<th>Name of Figure</th>
<th>Faces</th>
<th>Edges</th>
<th>Vertices</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Figure A" /></td>
<td><img src="image2.png" alt="Figure B" /></td>
<td><img src="image3.png" alt="Figure C" /></td>
<td></td>
</tr>
</tbody>
</table>

8. Draw a figure that is congruent to Figure A. Draw a figure that is similar to Figure A.

![Figure A](image4.png)
9. Write each product.

\[
\begin{array}{cccccc}
8.9 & 0.81 & 1.32 & 12.9 & 21.9 \\
\times 6 & \times 3 & \times 0.5 & \times 4.2 & \times 1.4 \\
\end{array}
\]

10. Write each quotient. Write an extra dividend in the quotient when needed.

\[
\begin{array}{cccc}
9 \div 262.17 & 4 \div 464.44 & 5 \div 157.8 & 2 \div 48.95 \\
\end{array}
\]

11. Complete the table.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{14}{100} )</td>
<td>0.14</td>
<td>14%</td>
</tr>
<tr>
<td>( \frac{62}{100} )</td>
<td></td>
<td>8%</td>
</tr>
<tr>
<td>( \frac{80}{100} )</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.75</td>
<td></td>
</tr>
</tbody>
</table>

12. Find the percent of each number.

\[
\begin{array}{cccc}
20\% \text{ of } 100 & 15\% \text{ of } 60 & 10\% \text{ of } 70 & 25\% \text{ of } 60 \\
\end{array}
\]

13. Find the range, mean, and mode for the set of numbers.

\[
13, 18, 61, 11, 47, 11, 84 \\
\]

range _________  mean _________  mode _________
Count each individual answer as a separate point except in Student Activity Twelve where only the numbers in the boxes, not the circled numbers, are counted. The total for the test is 100 points. The student should achieve a score of 70 or more points to be ready to begin second grade. Be sure to note the areas of weakness even for those who score over 70 points.

1. Write the numbers.
   - 452 has a 2 in the ones' place.
   - 918 has a 9 in the hundreds' place.
   - 763 has a 6 in the tens' place.

2. Write the numbers.
   - $495 = 400 + 90 + 5$
   - $817 = 800 + 10 + 7$

3. Write the correct time.
   - 5:00
   - 6:45
   - 3:30
   - 10:15

4. Write the value of each coin.
   - 10¢
   - 25¢
   - 1¢
   - 5¢
   - 10¢

5. Add.
   - $29 + 35 = 64$
   - $44 + 13 = 57$
   - $18 + 59 = 77$
   - $37 + 49 = 86$

6. Write $=$ or $\neq$ between each set.
   - $3 + 7 = 10$
   - $7 + 9 = 16$
   - $5 + 9 \neq 13$

7. Draw a line to match the shape to its name.

8. Subtract.
   - $11 - 9 = 2$
   - $16 - 8 = 8$
   - $17 - 7 = 10$
   - $12 - 6 = 6$
   - $15 - 8 = 7$
   - $13 - 7 = 6$
   - $11 - 3 = 8$
   - $13 - 6 = 7$

9. Write the fractional part that is shaded.

10. How many eggs are in a dozen? 12

11. Write $<$ or $>$ between each set.
   - $135 < 144$
   - $116 < 173$
   - $173 > 167$
   - $183 < 200$

12. Circle every third number after 7.
    - 7, 8, 9, 10, 11, 12, 13, 14, 15
    - 16, 17, 18, 19, 20, 21, 22, 23, 24
    - 25, 26, 27, 28, 29, 30, 31, 32, 33

13. Write the value of each set of coins.
    - 48¢
    - 56¢
    - 42¢
    - 87¢
Count each individual answer as a separate point. The total for the test is 70 points. The student should achieve a score of 50 or more points to be ready to begin third grade. Be sure to note the areas of weakness even for those who score over 50 points.

1. Write the temperature.

2. Write the ratio.

3. Write the correct time.

4. Write ones', tens', hundreds', or thousands'.

5. Name the shape. Draw a line of symmetry for each shape.

6. Write < or >.

7. Circle the next picture in sequence.

8. Find the area.

9. Find the volume.

10. Write what the shaded fractional part of the whole equals.

11. Find the sum and difference.

12. Find the product.

13. Write the name of the solid.

14. Write the answers.

15. Write the Arabic numbers.

16. In the rose garden, there were seven hundred forty-seven red rose buds. There were five hundred eighty-three yellow rose buds. How many more red rose buds were there than yellow?

Mr. Nelson asked mother to buy 15 bunches of carrots for $4.83. Mother bought 12 heads of lettuce for $8.36. Junior asked his mother to buy tomatoes for $2.62. How much would mother’s bill be for the three items?

$15.81
GRADE 4  Horizons Math Readiness Evaluation  Student Score___________

Count each individual answer as a separate point. The total for the test is 102 points. The student should achieve a score of 72 or more points to be ready to begin fourth grade. Be sure to note the areas of weakness even for those who score over 72 points.

1. 32 4,267 736  
   7,861 86 2,815  
   + 504  
   + 351  
   + 49  
   8,397 4,704 3,600

15. 7 6 7  
    8 7 9  
    + 49  
    10

2. 3 4 6 3 5 5  
   3 5 4 5 5  
   6 4 5 8  
   3 5 8  
   10 6 12 11

(answers can vary)

3. 3,814 3,734 3,559 3,086 4,503 3,119 1,553

4. < > >  
   < < >  
   17. 2,286 89 57,363 986,654
   18. 2,960 3,367 2,944
   19. $234.00 $13.88

5. 4,310 0  
   71,000 5,400  
   258,000 12,780  
   36,900 0

6. 2 r 3 7 r 3 8 r 1 3 r 2 5 r 6 3 r 6

7. 4:58 1:13 7:32 11:27 9:46

8. = ≠ ≠  

9. 190 4,240 80 23,500

10. 2,400 500 71,300 484,000

11. 8 : 3 6 : 5 22 5 : 22

12. tens thousand millions hundred thousands hundreds thousands ones millions ten millions

13. $\frac{1}{4}$ $\frac{3}{4}$ $\frac{3}{5}$

14. n = 6; n = 14; n = 24; n = 16
Count each individual answer as a separate point. The total for the test is 81 points. The student should achieve a score of 57 or more points to be ready to begin fifth grade. Be sure to note the areas of weakness even for those who score over 57 points.

1. $6.02; \quad $1.19; \quad $7.89; \quad $2.37; \quad $5.18
2. 70; \quad 90; \quad 10; \quad 20; \quad 40
3. Tami
4. 1. j
   2. i
   3. b
   4. h
   5. m
   6. g
   7. c
   8. l
   9. d
   10. a
   11. k
   12. o
   13. e
   14. f
   15. n
5. 1. $\angle RXS, \angle SXQ$
   2. $\angle RXQ, \angle RXP$
   3. PQ and AB
   4. AB and CD or PQ and RX
6. 1. Circle X
   2. 2 cm
   3. 2 cm
   4. CD
   5. 8 cm
7. 

8. Figure A – perimeter 60 in; area 200 in$^2$
   Figure B – 24 cm$^3$
9. 27; 42; 48; 81
10. $\frac{3}{3} = 1; \quad \frac{4}{10} = \frac{2}{5}; \quad \frac{6}{12} = \frac{1}{2}$
    $\frac{6}{7}; \quad \frac{13}{14}; \quad \frac{13}{9} = \frac{4}{9}$
11. $\frac{4}{8} = \frac{1}{2}; \quad \frac{10}{15} = \frac{2}{3}; \quad \frac{8}{10} = \frac{4}{5}$
    $\frac{8}{12} = \frac{2}{3}; \quad \frac{9}{12} = \frac{3}{4}; \quad \frac{11}{15}$
12. $8 \frac{3}{6} = 8 \frac{1}{2}; \quad 28 \frac{5}{7}; \quad 3 \frac{6}{6} = 1 \frac{1}{2}$
    $10 \frac{4}{12} = 10 \frac{1}{3}; \quad 16$
13. $> = < =$
14. 53.244; 698.022; 1.132; 6.82
15. 89.0; 7,889
    0.587; 85,400
    656,000; 700.1

AK5
1. Rhombus
2. Square
3. Equilateral Triangle
4. Scalene
5. Isosceles
6. Pentagon
7. Hexagon
8. Chord
9. Octagon
10. Prism

2. 1. 18 cm²
2. 12 cm²
3. Front 18 cm² x 2 = 36 cm²
   Top 24 cm² x 2 = 48 cm²
   Side 12 cm² x 2 = 24 cm²
   Total 108 cm²

3. \[ \frac{15}{16}, \frac{5}{8}, \frac{6}{9}, \frac{8}{14}, \frac{17}{24} \]
\[ \frac{26}{21} = \frac{5}{21}, \frac{17}{8} = \frac{2}{8} = \frac{8}{4} \]
\[ \frac{102}{40} = \frac{27}{40} \]
\[ 128\frac{12}{9} = 129\frac{3}{9} = 129\frac{1}{3} \]

4. 21 9 20 36

5. \[ \frac{12}{35}, \frac{25}{96}, \frac{28}{27} = 1\frac{1}{27}, \frac{55}{8} = 6\frac{7}{8} \]
\[ \frac{7}{12}, \frac{6}{5} = 1\frac{1}{5}, \frac{18}{2} = 9\frac{4}{45} \]

6. \[ \overline{XY}, \overline{AB}, \overline{TX} \text{ or } \overline{TY}, 3 \text{ cm} \]

7. Name of Figure | Triangular prism | Hexagonal pyramid | Cube
---|---|---|---
Faces | 5 | 7 | 6
Edges | 9 | 12 | 12
Vertices | 6 | 7 | 8

8. 

9. 53.4 2.43 0.66 54.18 30.66

10. 29.13 116.11 31.56 24.475

11. Fraction | Decimal | Percent
---|---|---
\[ \frac{14}{100} \] | 0.14 | 14%
\[ \frac{62}{100} \] | 0.62 | 62%
\[ \frac{8}{100} \] | 0.08 | 8%
\[ \frac{19}{100} \] | 0.19 | 19%
\[ \frac{80}{100} \] | 0.80 | 80%
\[ \frac{75}{100} \] | 0.75 | 75%

12. 20 9 7 15

13. range = 73
   mean = 35
   mode = 11