Important Concepts...

Preview Review

Mathematics  Grade 6  TEACHER KEY

W3 - Quiz
Important Concepts of Grade 6 Mathematics

W1 - Lesson 1 ............................................................. Basic Facts, Basic Operations, and Integers
W1 - Lesson 2 ............................................................. Place Value, Whole Numbers, Decimals, and Common Fractions
W1 - Lesson 3 ............................................................. Improper Fractions and Mixed Numbers
W1 - Lesson 4 ............................................................. Ratios and Percents
W1 - Lesson 5 ............................................................. Number Operations with Decimals
W1 - Quiz
W2 - Lesson 1 ............................................................. Factors, Multiples, and Prime Factorizations
W2 - Lesson 2 ............................................................. Metric Measurement
W2 - Lesson 3 ............................................................. Perimeter and Area
W2 - Lesson 4 ............................................................. Surface Area and Volume
W2 - Lesson 5 ............................................................. Working with Angles and Drawing Objects and Shapes
W2 - Quiz
W3 - Lesson 1 ............................................................. Transformations
W3 - Lesson 2 ............................................................. Bar Graphs, Line Graphs, and Circle Graphs
W3 - Lesson 3 ............................................................. Collecting and Analyzing Data
W3 - Lesson 4 ............................................................. Number Patterns, Magic Squares, and Problem Solving
W3 - Lesson 5 ............................................................. Probability and Outcomes
W3 - Quiz

Materials Required: A textbook is not needed. This is a stand-alone course.

Mathematics Grade 6
Version 5
Preview/Review W3 - Quiz TEACHER KEY

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IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.
1. Using the slide arrow shown at A above, move the triangle to the correct position.

2. Using the slide arrow shown at B above, move the cross to the correct position.

3. At position C, use what you know about flips to reposition the object.

4. At position D, turn the object one-quarter turn clockwise.
5. Write the correct word from those given below. The transformation that will result in the creation of a mirror image of the original object is __________ .

- rotation
- slide
- flip
- turn

_flip_________________________.
6. Jennifer’s soccer team held a bake sale to raise money to attend an upcoming provincial tournament. The pie graph below shows the distribution of baked goods sold.

![Pie chart showing items sold in bake sale: Blueberry Muffins (65), Chocolate Chip Cookies (20), Oatmeal Cookies (60), Brownies (30), Lemon Squares (80), Carrot Cake (100).]

a. If a total of 180 chocolate chip and oatmeal cookies were sold, the total number of baked goods sold is likely 360.

   175  270  360  400

b. The item that represents approximately 22% of the total number of baked goods sold is oatmeal cookies.

   brownies  oatmeal cookies  chocolate chip cookies  blueberry muffins
7. Nancy gathered data to compare the school populations of all the local schools. Using this data, create a bar graph on the grid provided. Your graph must have a title and axis headings.

<table>
<thead>
<tr>
<th>School</th>
<th>Student Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>MacDonald Elementary</td>
<td>455</td>
</tr>
<tr>
<td>James Valley Elementary</td>
<td>120</td>
</tr>
<tr>
<td>Peach Lake Junior High</td>
<td>690</td>
</tr>
<tr>
<td>Peter Brook Elementary</td>
<td>580</td>
</tr>
<tr>
<td>Shimmering Waters Junior High</td>
<td>235</td>
</tr>
<tr>
<td>Mountain View High School</td>
<td>945</td>
</tr>
</tbody>
</table>

School Populations of Local Schools
8. Mrs Charles gave all her science classes a quiz consisting of twelve questions to review the unit they had just covered. The distribution of the number of answers each student got correct is shown on the line plot below.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

a. What is a good title for this line plot?

*Scores in 12 Question Quiz (or other acceptable titles)*

b. How many students wrote this quiz?

**54**

c. What is the *mode* for this set of data?

**7**

d. What is the *mean* of this set of data?

**7 or 7.27**

e. What is the *range* for this line plot?

**1 to 12  (the range from top to bottom is 11 marks)**
9. On Saturday, ten people ran in a relay marathon to raise money for a local charity. The distances that each runner ran are listed in the table below.

<table>
<thead>
<tr>
<th>Runners</th>
<th>Distance Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runner 1</td>
<td>4.5 km</td>
</tr>
<tr>
<td>Runner 2</td>
<td>1.3 km</td>
</tr>
<tr>
<td>Runner 3</td>
<td>5.7 km</td>
</tr>
<tr>
<td>Runner 4</td>
<td>7.1 km</td>
</tr>
<tr>
<td>Runner 5</td>
<td>4.5 km</td>
</tr>
<tr>
<td>Runner 6</td>
<td>3.2 km</td>
</tr>
<tr>
<td>Runner 7</td>
<td>7.9 km</td>
</tr>
<tr>
<td>Runner 8</td>
<td>2.6 km</td>
</tr>
<tr>
<td>Runner 9</td>
<td>4.5 km</td>
</tr>
<tr>
<td>Runner 10</td>
<td>2.7 km</td>
</tr>
</tbody>
</table>

a. What is the range of km run? **1.3 km to 7.9 km**

b. What was the total length of the marathon? **44 km**

c. What is the mode for this set of data? **4.5 km**

d. What is the mean of this set of data? \( \frac{44 \text{ km}}{10} = 4.4 \) **4.4 km**
10. Find the pattern and write the next 3 numbers in the sequence:

50, 49, 47, 44, 40, 35, 29, 22,

11. What is the rule that explains the number pattern that relates the first two columns to the third column?

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>12</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

\[(\text{Column 1} - \text{Column 2}) \times 2 = \text{Column 3}\]

12. Find the correct numbers to make this addition question a true statement.

Find the values for the letters:

\[
\begin{align*}
A &= \underline{1} & A &= 947 \\
B &= \underline{3} & B &= 59B \\
C &= \underline{2} & C &= 703 \\
D &= \underline{4} & D &= D2 \\
E &= \underline{2} & E &= \underline{27 E85}
\end{align*}
\]
13. Using the game spinner, determine the probability of spinning different colours.

a. What is the probability of the spinner landing on red?

\[
\frac{3}{8}
\]

b. What is the probability of the spinner landing on purple?

\[
\frac{1}{8}
\]

c. What is the probability of the spinner landing on blue?

\[
\frac{2}{8} \text{ or } \frac{1}{4}
\]

d. Is it more probable to land on green or yellow?

There is equal probability (both have the same probability of \( \frac{1}{8} \)).
14. Matthew has a pair of dice, each numbered from 1 to 6. What is the probability that he will roll two sixes on the first roll? Show your work.

\[
\frac{1}{6} \times \frac{1}{6} = \frac{1}{36}
\]

*There is a one chance in 36 of rolling 2 sixes.*

15. Jonathan wants to flip a coin to decide who will bat first in a game of baseball. What is the probability that Jonathan will flip a tails?

\[
\frac{1}{2}
\]