Contents

Unit 8  Probability and Data Management: Graphs

<table>
<thead>
<tr>
<th>Name</th>
<th>Lessons</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>Lessons PDM4-1 to 5</td>
<td>1</td>
</tr>
<tr>
<td>Test</td>
<td>Lessons PDM4-2 to 5</td>
<td>4</td>
</tr>
</tbody>
</table>

Unit 9  Number Sense: Fractions

<table>
<thead>
<tr>
<th>Name</th>
<th>Lessons</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>Lessons NS4-45, 46</td>
<td>7</td>
</tr>
<tr>
<td>Quiz</td>
<td>Lessons NS4-48 to 50</td>
<td>9</td>
</tr>
<tr>
<td>Test</td>
<td>Lessons NS4-45, 46, 48 to 50</td>
<td>11</td>
</tr>
</tbody>
</table>

Unit 10 Number Sense: Decimals

<table>
<thead>
<tr>
<th>Name</th>
<th>Lessons</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>Lessons NS4-52 to 54</td>
<td>13</td>
</tr>
<tr>
<td>Quiz</td>
<td>Lessons NS4-56 to 59</td>
<td>16</td>
</tr>
<tr>
<td>Quiz</td>
<td>Lessons NS4-60 to 63</td>
<td>19</td>
</tr>
<tr>
<td>Test</td>
<td>Lessons NS4-52 to 54, 56 to 63</td>
<td>22</td>
</tr>
</tbody>
</table>

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## Unit 11  Patterns and Algebra: Equations

<table>
<thead>
<tr>
<th>Name</th>
<th>Lessons</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>Lessons PA4-12 to 15</td>
<td>25</td>
</tr>
<tr>
<td>Quiz</td>
<td>Lessons PA4-16 to 18</td>
<td>27</td>
</tr>
<tr>
<td>Test</td>
<td>Lessons PA4-12 to 18</td>
<td>29</td>
</tr>
</tbody>
</table>

## Unit 12  Measurement: 2-D Shapes

<table>
<thead>
<tr>
<th>Name</th>
<th>Lessons</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>Lessons ME4-9, 10</td>
<td>32</td>
</tr>
<tr>
<td>Test</td>
<td>Lessons ME4-9, 10</td>
<td>34</td>
</tr>
</tbody>
</table>

## Unit 13  Measurement: Time

<table>
<thead>
<tr>
<th>Name</th>
<th>Lessons</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>Lessons ME4-21 to 25</td>
<td>36</td>
</tr>
<tr>
<td>Test</td>
<td>Lessons ME4-21 to 25</td>
<td>38</td>
</tr>
</tbody>
</table>

## Unit 14  Geometry: 3-D Shapes

The lessons in this unit are optional for the British Columbia curriculum, so quizzes and tests are not provided.

## Unit 15  Probability and Data Management: Probability

<table>
<thead>
<tr>
<th>Name</th>
<th>Lessons</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>Lessons PDM4-10, 11, 13</td>
<td>40</td>
</tr>
<tr>
<td>Test</td>
<td>Lessons PDM4-10, 11, 13</td>
<td>42</td>
</tr>
</tbody>
</table>
Introduction to Quizzes and Tests

We provide a quiz for, on average, every four lessons and a test covering the material of two to three quizzes, with one or two tests per unit. Students should need no more than 10 minutes to complete a quiz and no more than 45 minutes to complete a test.

Quizzes cover material both from lessons that are required to cover the curriculum and lessons labelled as recommended, while tests only cover material from lessons that are required to cover the curriculum.

Quizzes can be used as confidence builders and as formative assessment tools. A quiz should be administered after the last lesson that it covers has been taught. Tests are intended to be used as summative assessment tools. We recommend allowing students time to receive and internalize the feedback from all relevant quizzes before administering the test. The introduction to each unit in the Teacher Resource identifies which lessons are covered by each quiz and test.
Unit 8: Probability and Data Management

Quiz (Lessons 1–5) — BC

1. Are all possible responses given? If not, add an “other” category.
   a) What is your favourite colour?
      □ red       □ yellow       □ blue
   b) Which of these flavours do you like best?
      □ vanilla    □ chocolate    □ strawberry

2. The first row shows what 😊 means. What does ☹ mean? Fill in the table.

<table>
<thead>
<tr>
<th>😊</th>
<th>2</th>
<th>8</th>
<th>10</th>
<th>50</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>☹</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. a) Use the pictograph to fill in the table.

<table>
<thead>
<tr>
<th>Birds Seen</th>
<th>😊 = 4 birds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jays</td>
<td>🍁🍁🍁</td>
</tr>
<tr>
<td>Robins</td>
<td>🍁🍁</td>
</tr>
<tr>
<td>Finches</td>
<td>🍁</td>
</tr>
<tr>
<td>Sparrows</td>
<td>🍁🍁🍁🍁🍁🍁🍁</td>
</tr>
</tbody>
</table>

   Type of Bird | Number Seen
   --------------|--------------
   Jays           |              
   Robins        |              
   Finches       |              
   Sparrows      |              

   b) How many birds were seen in total? _________
   c) How many times as many jays as finches were seen? _________

BONUS ► Make up your own question from the pictograph. Write the answer.

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
4. Tasha surveyed her grade about their favourite type of movie and gave four choices.
   a) Here are the results of Tasha’s survey. Tally the data.

   | Action: | ________ |
   | Drama:  | ________ |
   | Comedy: | ________ |
   | Romance:| ________ |

   b) Fill in the title and axis labels on the bar graph.
   c) Count by 4s to fill in the numbers on the axis.
   d) Complete the bar graph.

   Title: ____________________________________________________
Unit 8: Probability and Data Management

Quiz (Lessons 1–5) — BC

1. a) Add "other."
   b) Do not add "other."

2. 1, 4, 5, 25, 50

3. a) 12
   8
   4
   24
   b) 48
   c) 3

BONUS
   Answers will vary.
   Teacher to check.

4. a) 22
   8
   24
   6
   b) Teacher to check.
   c) 4, 8, 12, 16, 20,
      24, 28
   d) Teacher to check.
1. The first row shows what ☺ means. What does ☻ mean? Fill in the table.

<table>
<thead>
<tr>
<th>☺</th>
<th>4</th>
<th>6</th>
<th>20</th>
<th>30</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>☻</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. a) Use the pictograph to fill in the table.

| Birds Seen |  ● = 10 birds |
|------------|--|---|---|---|---|---|
| Jays       | ● ● ● |
| Robins     | ● ● |
| Finches    |  ● |
| Sparrows   | ● ● ● ● ● |

<table>
<thead>
<tr>
<th>Type of Bird</th>
<th>Number Seen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jays</td>
<td></td>
</tr>
<tr>
<td>Robins</td>
<td></td>
</tr>
<tr>
<td>Finches</td>
<td></td>
</tr>
<tr>
<td>Sparrows</td>
<td></td>
</tr>
</tbody>
</table>

b) How many birds were seen in total? _________

c) How many times as many sparrows as finches were seen? _________
3. Kyle surveyed his grade about their favourite type of movie and gave four choices.

a) Here are the results of Kyle’s survey. Tally the data.

<table>
<thead>
<tr>
<th></th>
<th>Action</th>
<th>Drama</th>
<th>Comedy</th>
<th>Romance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tally</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b) Fill in the title and axis labels on the bar graph.

c) Count by 10s to fill in the numbers on the axis.

d) Complete the bar graph.

Title: ______________________________________________________
Unit 8: Probability and Data Management

Test (Lessons 2–5) — BC

1. 2, 3, 10, 15, 200

2. a) 30
   20
   5
   60
   b) 115
   c) 12

3. a) 30
   15
   35
   10
   b) Teacher to check.
   c) 10, 20, 30, 40, 50, 60, 70
   d) Teacher to check.
Unit 9: Number Sense

Quiz (Lessons 45, 46) — BC

Name: ______________________
Date: ________________

1. Write the fraction shown by the shaded part of the image.
   \[ \begin{array}{ll}
   a) \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \\
   \hspace{1cm} & \\
   \end{array} \]
   \[ \begin{array}{ll}
   b) \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \\
   \hspace{1cm} & \\
   \end{array} \]

2. Shade half of the figure. Write two fractions to describe the shaded part.
   \[ \begin{array}{ll}
   a) \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \\
   \hspace{1cm} & \\
   \end{array} \]
   \[ \begin{array}{ll}
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \\
   \hspace{1cm} & \\
   \end{array} \]

3. How many shaded parts does the fraction show? How many parts are not shaded?
   \[ \begin{array}{ll}
   a) \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \end{array} \]
   \[ \begin{array}{ll}
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \end{array} \]

4. A fraction is equal to 0 if its numerator is _____.

5. Shade two different fractions between 0 and \( \frac{1}{2} \), and then write the fractions.
   \[ \begin{array}{ll}
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \end{array} \]
   This fraction is \( \hspace{1cm} \).
   \[ \begin{array}{ll}
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \hspace{1cm} & \hspace{1cm} \\
   \end{array} \]
   This fraction is \( \hspace{1cm} \).
Unit 9: Number Sense
Quiz (Lessons 45, 46) — BC

1. a) \( \frac{3}{4} \)
   
   b) \( \frac{6}{10} \)

2. Teacher to check shading.
   a) \( \frac{1}{2} = \frac{2}{4} \)
   
   b) \( \frac{1}{2} = \frac{3}{6} \)

3. a) \( 7 \)
   
   b) \( 3 \)

4. 0

5. Teacher to check shading.
   Fractions could be
   \( \frac{1}{8} \) or \( \frac{1}{4} \)
1. Circle the greater fraction.
   a) $\frac{4}{7}$ or $\frac{6}{7}$      b) $\frac{3}{10}$ or $\frac{1}{10}$      c) $\frac{4}{5}$ or $\frac{4}{10}$      d) $\frac{22}{35}$ or $\frac{22}{23}$

2. Two fractions have the same denominator but different numerators. How can you tell which fraction is greater?

3. Order the fractions from least to greatest by considering the numerators and denominators.
   a) $\frac{8}{10}$, $\frac{3}{10}$, $\frac{1}{10}$, $\frac{5}{10}$, $\frac{2}{10}$
   b) $\frac{6}{19}$, $\frac{3}{19}$, $\frac{17}{19}$, $\frac{10}{19}$, $\frac{12}{19}$

4. Draw a picture that fits all the clues.
   a) There are 6 circles and squares. $\frac{2}{6}$ of the figures have four sides. $\frac{4}{6}$ of the figures are shaded.
   b) There are 5 squares and triangles. $\frac{3}{5}$ of the figures have four sides. $\frac{2}{5}$ of the figures are shaded.

5. Draw a picture to find $\frac{2}{3}$ of 9 boxes.

6. Shade $\frac{3}{4}$ of the boxes. Hint: First count the boxes and find $\frac{1}{4}$.
   a) b) c)
Unit 9: Number Sense

Quiz (Lessons 48–50) — BC

1. Circle the following:
   a) \( \frac{6}{7} \)
   b) \( \frac{3}{10} \)
   c) \( \frac{4}{5} \)
   d) \( \frac{22}{23} \)

2. If two fractions have the same denominator, the fraction with the larger numerator is greater.

3. a) \( \frac{1}{10}, \frac{2}{10}, \frac{3}{10}, \frac{5}{10}, \frac{8}{10} \)
   b) \( \frac{3}{19}, \frac{6}{19}, \frac{10}{19}, \frac{12}{19}, \frac{17}{19} \)

4. Sample answers:
   a) \(\overline{\square\square\square\square\square}\)
   b) \(\overline{\triangle\triangle\square\square}\)

5. \(\overline{\square\square\square\square\square\square\square\square}\)

6. a) \(\square\square\square\)
   b) \(\square\square\square\square\)
   c) \(\square\square\square\square\)
1. Shade the fraction.
   a) \(\frac{4}{6}\)  
   b) \(\frac{3}{9}\)  
   c) \(\frac{5}{8}\)

2. Write > or <.
   a) \(\frac{3}{7}\)  \(\frac{1}{2}\)  
   b) \(\frac{1}{2}\)  \(\frac{5}{9}\)  
   c) \(\frac{9}{16}\)  \(\frac{1}{2}\)

3. Circle the greater fraction.
   a) \(\frac{3}{5}\)  or  \(\frac{5}{5}\)  
   b) \(\frac{20}{24}\)  or  \(\frac{12}{24}\)  
   c) \(\frac{1}{1000}\)  or  \(\frac{10}{1000}\)

4. Order the fractions from greatest to least by considering the numerators and denominators.
   a) \(\frac{34}{117}\)  \(\frac{101}{117}\)  \(\frac{17}{117}\)  \(\frac{2}{117}\)  \(\frac{60}{117}\)  
   b) \(\frac{100}{10000}\)  \(\frac{10}{10000}\)  \(\frac{1000}{10000}\)  \(\frac{10000}{10000}\)  \(\frac{1}{10000}\)

5. A jar contains 7 red marbles, 3 yellow marbles, and 5 blue marbles. What fraction of the marbles are not blue? You can make a picture to help.

6. Write four fraction statements for the picture: \(\bigcirc\bigtriangledown\bigcirc\bigtriangleup\)
1. Teacher to check that the following number of parts is shaded:
   a) four
   b) three
   c) five

2. a) <
   b) <
   c) >

3. Circle the following:
   a) \frac{5}{5}
   b) \frac{20}{24}
   c) \frac{10}{1000}

4. a) \frac{101}{117}, \frac{60}{117}, \frac{34}{117}, \frac{17}{2}, \frac{2}{117}
   b) \frac{10000}{10000}, \frac{1000}{10000}, \frac{100}{10000}, \frac{10}{10000}, \frac{1}{10000}

5. \frac{10}{15}

6. Answers will vary.
   Sample answers:
   \frac{3}{7} are triangles, \frac{3}{7} are circles, \frac{1}{7} is a rectangle, \frac{4}{7} are shaded.
1. Write a fraction and a decimal for the shaded part in the boxes.
   a) 
   b) 
   c) 

2. Show the decimal on the number line with an X.
   a) 0.7 of the distance from 0.0 to 1.0
   b) 0.3 of the distance from 0.0 to 1.0

3. Write the number into the place value chart.

<table>
<thead>
<tr>
<th>Thousands</th>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 2033.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) 0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) 6.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) 892.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. a) Write a fraction in each blank above the number line.
    b) Write a decimal in each blank below the number line.

   0 10
   
   0.0

   c) Which decimal is equal to the fraction?

      i) \( \frac{6}{10} = \) ii) \( \frac{2}{10} = \) iii) \( \frac{10}{10} = \) iv) \( \frac{5}{10} = \)

5. Write the equivalent words.
   a) 8.3 = ________________________________
   b) 11.9 = ________________________________
6. Count the shaded tenths. Write the amount two ways.

   a)  

   _____ tenths = _____

   b)  

   _____ tenths = _____
1. a) $\frac{6}{10}$, 0.6
   b) $\frac{5}{10}$, 0.5
   c) $\frac{7}{10}$, 0.7

2. a)
   b)

3. a) 2 0 3 3 4
   b) 0 6
   c) 6 3
   d) 8 9 2 7

4. a) 1 2 3 4
    5 6 7 8
    9 10
b) 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0
   c) i) 0.6
      ii) 0.2
      iii) 1.0
      iv) 0.5

5. a) eight and three tenths
   b) eleven and nine tenths

6. a) 26, 2.6
   b) 74, 7.4
1. Add the decimals by lining up the decimal points. You will need to regroup.
   a) $62.8 + 9.3$
   b) $70.8 + 19.4$
   c) $7.4 + 36.5 + 28.6$

2. Subtract the decimals by lining up the decimal points. You will need to regroup.
   a) $53.7 - 8.9$
   b) $18.2 - 12.8$
   c) $70.4 - 15.6$

3. Circle the correct answer.
   a) 17.3 is closer to: 17.0 or 18.0
   b) 9.6 is closer to: 9.0 or 10.0
   c) 57.1 is closer to: 57.0 or 58.0
   d) 0.7 is closer to: 0.0 or 1.0

4. Shade the same amount in the second square. Then count by 10s to write the number of hundredths.
   a) 
   b) 
   \[
   \begin{array}{c}
   \frac{4}{10} = \frac{__}{100} \\
   \frac{8}{10} = \frac{__}{100}
   \end{array}
   \]
5. Shade the fraction.

   a) \( \frac{52}{100} \)
   b) \( \frac{4}{10} \)
   c) 11 hundredths
   d) 9 tenths

6. Write a fraction for the shaded part of the hundreds block. Then write the fraction as a decimal. Hint: Count by 10s for each column or row that is shaded.

   a) 
   b)  
   BONUS ➤

   [Shaded grid images for each fraction]
1. a) 
\[
\begin{array}{c}
\phantom{+}1 \\
6 & 2 & 8 \\
+ & & & & 3 \\
9 & 3 \\
\hline
7 & 2 & 1
\end{array}
\]

b) 
\[
\begin{array}{c}
\phantom{+}1 \\
7 & 0 & 8 \\
+ & 1 & 9 & 4 \\
& & 9 & 0 & 2
\end{array}
\]

c) 
\[
\begin{array}{c}
\phantom{+}2 \\
7 & 4 \\
3 & 6 & 5 \\
+ & 2 & 8 & 6 \\
\hline
7 & 2 & 5
\end{array}
\]

2. a) 
\[
\begin{array}{c}
\phantom{-}4 & 1 & 2 & 1 \\
\hline
\phantom{+}8 & 7 \\
\phantom{+}4 & 9 \\
\hline
4 & 8
\end{array}
\]

b) 
\[
\begin{array}{c}
\phantom{-}7 & 1 \\
\phantom{+}1 & 2 & 8 \\
\hline
5 & 4
\end{array}
\]

c) 
\[
\begin{array}{c}
\phantom{-}6 & 9 & 1 \\
\hline
\phantom{+}8 & 4 \\
\phantom{+}1 & 5 & 6 \\
\hline
5 & 4 & 8
\end{array}
\]

3. Circle the following:
   a) 17.0
   b) 10.0
   c) 57.0
   d) 1.0

4. a) 
\[
\begin{array}{c}
10 & 0 \\
\hline
40
\end{array}
\]

b) 
\[
\begin{array}{c}
20 & 0 \\
\hline
80
\end{array}
\]

5. a) 
\[
\begin{array}{c}
\phantom{+}1 \\
\hline
\phantom{+}2
\end{array}
\]

b) 
\[
\begin{array}{c}
\phantom{+}1 \\
\hline
\phantom{+}2
\end{array}
\]

c) 
\[
\begin{array}{c}
\phantom{+}1 \\
\hline
\phantom{+}2
\end{array}
\]

d) 
\[
\begin{array}{c}
\phantom{+}1 \\
\hline
\phantom{+}2
\end{array}
\]

6. a) 
\[
\frac{60}{100} = 0.6
\]

b) 
\[
\frac{44}{100} = 0.44
\]

BONUS
\[
\frac{88}{100} = 0.88
\]
Unit 10: Number Sense
Quiz (Lessons 60–63) — BC

Name: ______________________

Date: ________________

1. Describe the shaded parts in two ways.
   a)  
      
      ______ = _____ ones _____ tenths _____ hundredths

   b)  
      
      ______ = _____ ones _____ tenths _____ hundredths

2. Write the number in expanded form.
   a) 4.67 = _____ + _____ + _____
   b) 35.29 = _____ + _____ + _____ + _____

3. Regroup so that each place value has a single digit.
   a) 4 ones + 16 tenths + 14 hundredths = _____ ones + _____ tenths + _____ hundredths
   b) 15 tenths + 37 hundredths = _____ one + _____ tenths + _____ hundredths

4. Add by lining up the decimal points. You may need to regroup more than once.
   a) 16.82 + 34.09
   b) 28.97 + 5.35

5. Subtract by lining up the decimal points. You may need to regroup more than once.
   a) 62.37 − 3.28
   b) 25.03 − 16.44
6. Complete the table.

<table>
<thead>
<tr>
<th>Amount in ¢</th>
<th>Dollars</th>
<th>Dimes</th>
<th>Cents</th>
<th>Amount in $</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 328¢</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) 7¢</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) 68¢</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. You need to pay the given amount. You have a 10-dollar bill. Find the difference owed.

\[ \text{Difference owed} = \text{10.00} - \text{1.70} \]

\[ \text{Difference owed} = \underline{8.30} \]
Unit 10: Number Sense

Quiz (Lessons 60–63) — BC

1. a) 2.46, 2, 4, 6  
    b) 4.36, 4, 3, 6
2. a) 4, 0.6, 0.07  
    b) 30, 5, 0.2, 0.09
3. a) 5, 7, 4  
    b) 1, 8, 7
4. a) 

\[
\begin{array}{cccc}
1 & 6 & 8 & 2 \\
3 & 4 & 0 & 9 \\
\hline
5 & 0 & 9 & 1 \\
\end{array}
\]

b) 

\[
\begin{array}{cccc}
2 & 8 & 9 & 7 \\
5 & 3 & 5 \\
\hline
3 & 4 & 3 & 2 \\
\end{array}
\]
5. a) 

\[
\begin{array}{cccc}
5 & 1 & 2 & 1 \\
\hline
2 & \_ & \_ & 7 \\
3 & 2 & 8 \\
\hline
5 & 9 & 0 & 9 \\
\end{array}
\]

b) 

\[
\begin{array}{cccc}
1 & 4 & 0 & 1 \\
\hline
\_ & \_ & \_ & 3 \\
1 & 6 & 4 & 4 \\
\hline
8 & 5 & 9 \\
\end{array}
\]
6. a) 3, 2, 8, $3.28  
    b) 0, 0, 7, $0.07  
    c) 0, 6, 8, $0.68
7. 30¢, $2.00, $8.00, $8.30
1. What value does the digit 6 have in the number?
   a) 7625.1  
   b) 0.6  
   c) 960.5 

2. a) Write a decimal in each blank below the number line.
   0 0.0 1 2 3 4 5

   b) Write the decimal that the fraction is equal to.
   i) \( \frac{5}{5} = \) 
   ii) \( \frac{2}{5} = \) 
   iii) \( \frac{4}{5} = \) 
   iv) \( \frac{0}{5} = \) 

3. Write a decimal in each blank below the number line.
   29.3 29.4 30.3

4. Subtract the decimals by lining up the decimal points.
   a) 67.1 – 8.23
   b) 10.41 – 9.5

5. Shade the fraction.
   a) 47 hundredths
   b) \( \frac{3}{10} \)
6. You need to pay the given amount. You have a 10-dollar bill. Find the difference owed.

\[
\text{Difference owed} = \underline{\phantom{1234}}
\]

7. You need to pay the given amount. You have a 20-dollar bill. Find the difference owed.

\[
\text{Difference owed} = \underline{\phantom{1234}}
\]
1. a) 600
   b) 6
      10
c) 60
2. a) 0.1, 0.2, 0.3, 0.4, 0.5,
    0.6, 0.7, 0.8, 0.9, 1.0
   b) i) 1.0
      ii) 0.4
      iii) 0.8
      iv) 0.0
3. 29.5, 29.6, 29.7, 29.8,
   29.9, 30.0, 30.1, 30.2
4. a) \[
\begin{array}{ccc}
  5 & 16 & 10 \  \\
  \hline
  8 & 2 & 3 \  \\
  \hline
  5 & 8 & 8 \  \\
\end{array}
\]
   b) \[
\begin{array}{ccc}
  0 & 9 & 1 \  \\
  \hline
  4 & 1 \  \\
  \hline
  9 & 5 & 0 \  \\
  \hline
  0 & 9 & 1 \  \\
\end{array}
\]
5. a) \[
\begin{array}{c}
\end{array}
\]
b) \[
\begin{array}{c}
\end{array}
\]
6. 90¢, $2.00, $8.00, $8.90
7. 60¢, $13.00, $7.00, $7.60
1. Draw the missing marbles in the box. Then write the missing number in the smaller box.
   a) \[
   \begin{array}{c}
   \text{\includegraphics{marbles.png}} \\
   5 + \square = 8
   \end{array}
   \]
   b) \[
   \begin{array}{c}
   \text{\includegraphics{marbles.png}} \\
   4 = \square - 3
   \end{array}
   \]

2. Rewrite the multiplication as division, then solve the equation.
   a) \[
   \begin{array}{c}
   \square \times 3 = 15
   \end{array}
   \]
   b) \[
   \begin{array}{c}
   50 = 2 \times \square
   \end{array}
   \]
   c) \[
   \begin{array}{c}
   \square \times 21 = 84
   \end{array}
   \]

3. Write three equations for the table.
   a) \[
   \begin{array}{c}
   \begin{array}{c|c}
   m & 18 \\
   \hline
   11 & \end{array}
   \end{array}
   \]
   b) \[
   \begin{array}{c}
   \begin{array}{c|c}
   v & 6 \\
   23 & \end{array}
   \end{array}
   \]
   c) \[
   \begin{array}{c}
   \begin{array}{c|c}
   10 & 37 \\
   \hline
   k & \end{array}
   \end{array}
   \]

4. Fill in the table. Write \( x \) for the number you are not given. Circle the part that is larger. Write an equation where the unknown is by itself.

<table>
<thead>
<tr>
<th>Parts</th>
<th>Difference</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cats</td>
<td>Dogs</td>
<td></td>
</tr>
<tr>
<td>a) 5 dogs; 3 more cats than dogs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) 6 cats; 2 fewer cats than dogs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) 14 dogs; 11 more dogs than cats</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BONUS**

<table>
<thead>
<tr>
<th>Parts</th>
<th>Difference</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 cats; 8 fewer dogs than cats</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. a) 3
   b) 7
2. a) 5
   15 ÷ 3 = □
   b) 25
   50 ÷ 2 = □
   c) 4
   84 ÷ 21 = □
3. a) 18 = m + 11
   m = 18 − 11
   11 = 18 − m
   b) v = 6 + 23
   23 = v − 6
   6 = v − 23
   c) 37 = 10 + k
   k = 37 − 10
   10 = 37 − k
4. a) 5, 3, x = 5 + 3
   b) 6, 2, x = 6 + 2
   c) 11, x = 14 − 11
   BONUS
   17, x, 8, x = 17 − 8
1. Fill in the table. Write $x$ for the number you need to find. Cross out the information you do not use.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Parts</th>
<th>How Many?</th>
<th>Difference Total</th>
<th>Equation and Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Sean has 5 kg of apples and 6 kg of pears. How much fruit does he have?</td>
<td></td>
<td></td>
<td></td>
<td>Difference: _____</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total: _____</td>
</tr>
<tr>
<td>b) Sandy Beach Camp has 27 red canoes. It has 15 fewer green canoes than red canoes. How many green canoes does the camp have?</td>
<td></td>
<td></td>
<td></td>
<td>Difference: _____</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total: _____</td>
</tr>
</tbody>
</table>

2. Mick can play four times as many songs on the piano as Sara. Mick can play 18 more songs than Sara. How many songs can each person play? Draw the model. Find the size of one block in the model. Then solve the problem.

Mick can play _____ songs and Sara can play _____ songs.

3. Complete the table.

<table>
<thead>
<tr>
<th>Total Number of Things</th>
<th>Number of Sets</th>
<th>Number in Each Set</th>
<th>Multiplication or Division Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) $x$</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>b) 88</td>
<td>4</td>
<td>$x$</td>
<td></td>
</tr>
<tr>
<td>c) 21</td>
<td>$x$</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

BONUS ►

<table>
<thead>
<tr>
<th>Total Number of Things</th>
<th>Number of Sets</th>
<th>Number in Each Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>2</td>
<td>$x$</td>
</tr>
</tbody>
</table>
1. a) apples, 5 kg  
   pears, 6 kg  
   total: $x$  
   $5 + 6 = x$, $x = 11$  

b) red canoes, 27  
   green canoes, $x$  
   difference: 15  
   $27 - 15 = x$, $x = 12$  

2. Mick:        Sara:  
   $\square\square\square$  
   24, 6  

3. a) $5 \times 8 = 40$  

b) $88 \div 4 = 22$  

c) $21 \div 3 = 7$  

**BONUS**  
$1000 \div 2 = 500$
Unit 11: Patterns and Algebra

Test (Lessons 12–18) — BC

1. Draw a picture for the equation. Use your picture to solve the equation.
   a) $4 + \square = 9$
   b) $3 = \square - 7$

2. Rewrite the multiplication as division, then solve the equation.
   a) $\square \times 4 = 20$
   b) $64 = 2 \times \square$
   BONUS $\square \times 8 = 800$

3. Circle the total in the story. Then write an equation and solve it.
   a) 12 green grapes
   16 grapes altogether
   x purple grapes
   b) x green grapes
   14 purple grapes
   22 grapes altogether
   c) 17 green grapes
   19 grapes altogether
   x purple grapes

4. Write an equation where the unknown is by itself. Then solve the equation.
   a) Ella hikes 12 km in the morning. She hikes 3 km less in the afternoon. How many kilometres did she hike in the afternoon?

   b) Simon counted 27 sparrows at the bird feeder on Wednesday and 19 sparrows on Thursday. How many more sparrows did he see on Wednesday than on Thursday?
5. Draw the model. Find the size of one block in the model. Then solve the problem.

   a) A jacket costs twice as much as a hat. Kim paid $36 for a jacket and a hat. How much did each item cost?

   b) A set of guitar strings costs $7. How much do 4 sets of guitar strings cost?

   c) Arthur is 15 years old. Arthur is 5 times as old as Mary. How old is Mary?
1. a) 
\[ 4 + 5 = 9 \]

b) 
\[ 3 = 10 - 7 \]

2. a) 5
\[ 20 \div 4 = □ \]

b) 32
\[ 64 \div 2 = □ \]

BONUS
100
\[ 800 \div 8 = □ \]

3. a) Circle 16 grapes altogether
\[ 16 - 12 = x \]
\[ x = 4 \]

b) Circle 22 grapes altogether
\[ 22 - 14 = x \]
\[ x = 8 \]

c) Circle 19 grapes altogether
\[ 19 - 17 = x \]
\[ x = 2 \]

4. a) 12 - x = 3
\[ 12 - 3 = x \]
\[ x = 9 \]

b) 27 - x = 19
\[ x = 27 - 19 \]
\[ x = 8 \]

5. a) Selected solution:
Jacket: $24
Hat: $12
The jacket cost $24 and the hat cost $12.

b) Four sets of guitar strings cost $28.

c) Mary is 3 years old.
1. Add to find the perimeter of the figure.

   a) \[ \text{Perimeter} = {} \]
   \[
   \begin{array}{c}
   3 \text{ m} \\
   1 \text{ m} \\
   3 \text{ m} \\
   4 \text{ m}
   \end{array}
   \]

   b) \[ \text{Perimeter} = {} \]
   \[
   \begin{array}{c}
   3 \text{ km} \\
   5 \text{ km} \\
   4 \text{ km}
   \end{array}
   \]

2. Find the missing sides.

   a) Perimeter = 16 cm
   \[
   \begin{array}{c}
   6 \text{ cm} \\
   \_ \text{ cm} \\
   \_ \text{ cm}
   \end{array}
   \]

   b) Perimeter = 20 dm
   \[
   \begin{array}{c}
   3 \text{ dm} \\
   \_ \text{ dm} \\
   3 \text{ dm}
   \end{array}
   \]

3. Find all rectangles with perimeter equal to 8 cm (with lengths and widths that are exact numbers of centimetres).

BONUS► Find the perimeter of the triangle.

\[
\begin{array}{c}
2 \text{ cm} \\
35 \text{ mm} \\
38 \text{ mm}
\end{array}
\]
Unit 12: Measurement

Quiz (Lessons 9, 10) — BC

1. a) 11 m
   b) 12 km
2. a) 2, 2
   b) 7, 7
3. 1 cm by 3 cm
   2 cm by 2 cm

BONUS

20 + 35 + 38 = 93 mm
1. Estimate the perimeter of the figure in centimetres. Then measure the actual perimeter with a ruler.

   a) 
   
   Estimated perimeter = _______  
   Actual perimeter = _______

   b) 
   
   Estimated perimeter = _______  
   Actual perimeter = _______

2. Measure the sides in millimetres with a ruler. Then find the perimeter.

   a) 
   
   _____ mm  
   _____ mm  
   _____ mm  
   Perimeter = _____ mm

   b) 
   
   _____ mm  
   _____ mm

   Perimeter = _____ mm

**BONUS** What is the approximate perimeter of each rectangle in Question 2 in centimetres? How did you find your answers?
1. Estimates will vary. Actual measurement:
   a) 10 cm
   b) 14 cm

2. a) 21
   37
   116
   b) 9
   48
   114

BONUS
Explanations will vary.
   a) 12 cm
   b) 11 cm or 12 cm
Unit 13: Measurement

Quiz (Lessons 21–25) — BC

Name: ______________________  Date: ________________

1. Write the time the way it looks on a digital clock.
   a) 17 minutes after 5  
   b) 10 minutes before 9  
   c) 7 o’clock
   ____________ : ____________  
   ____________ : ____________  
   ____________ : ____________

2. Write “a.m.” or “p.m.”
   a) Bedtime is 8:30 _____  
   b) Breakfast is at 8:30 _____

3. The time is from a 24-hour clock. Write it the way you would for a 12-hour clock.
   a) 15:00  
   b) 3:25  
   c) 12:01  
   d) 20:40
   ____________  
   ____________  
   ____________  
   ____________

4. Write the time as it would look on a 24-hour clock.
   a) 1:20 p.m.  
   b) 7:19 a.m.  
   c) 10:45 p.m.  
   BONUS ▶ 12:15 a.m.
   ____________  
   ____________  
   ____________  
   ____________

5. Draw hands on the clock to show the time.
   a)
   b)
   c)
   4:15  
   6:35  
   10:10

6. Write the exact time.
   a)
   b)
   c)
   ____________  
   ____________  
   ____________
Unit 13: Measurement

Quiz (Lessons 21–25) — BC

1. a) 05:17
   b) 08:50
   c) 07:00
2. a) p.m.
   b) a.m.
3. a) 3:00 p.m.
   b) 3:25 a.m.
   c) 12:01 p.m.
   d) 8:40 p.m.
4. a) 13:20
   b) 07:19
   c) 22:45
   **BONUS**
   00:15
5. Teacher to check.
6. a) 7:48
   b) 4:29
   c) 10:11
1. Write the time in words.
   a) 3:30  
   b) 4:27  

2. Write “a.m.” or “p.m.”
   a) School starts at 8:30 _____  
   b) Dinner is at 6:30 _____  

3. The time is from a 24-hour clock. Write it the way you would for a 12-hour clock.
   a) 18:00  
   b) 02:25  
   c) 12:01  
   d) 16:45  

4. Write the time as it would look on a 24-hour clock.
   a) 3:35 p.m.  
   b) 6:15 a.m.  
   c) 11:45 p.m.  

5. Draw hands on the clock to show the time.
   a) 3:45  
   b) 11:25  
   c) 6:10  

6. Write the time two ways.
   a)  
   b)  
   c)  

7. a) What time is it now? _________  
   b) Is it a.m. or p.m.? _________  

38 Unit Quizzes and Tests for Grade 4
Unit 13: Measurement
Test (Lessons 21–25) — BC

1. a) Sample answer: three thirty
   b) Sample answer: 27 minutes after 4
2. a) a.m.
   b) p.m.
3. a) 6:00 p.m.
   b) 2:25 a.m.
   c) 12:01 p.m.
   d) 4:45 p.m.
4. a) 15:35
   b) 06:15
   c) 23:45
   BONUS
      12:15
5. Teacher to check.
6. a) 33 after 9
   b) 4 after 5
   c) 4 minutes to 1
5:04
12:56
7. Answers will vary. Teacher to check.
1. List all the outcomes (possible results) of spinning the spinner in the table. How many outcomes are there in total?

   a)
   b)
   c)

<table>
<thead>
<tr>
<th>Outcomes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Number of Outcomes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. a) How many times do you expect to get a number greater than 4 when you roll a die …

   i) 6 times? _____  
   ii) 12 times? _____  
   iii) 18 times? _____

   b) How many times do you expect to get a number less than 5 when you roll a die …

   i) 6 times? _____  
   ii) 12 times? _____  
   iii) 18 times? _____
1. a) X, Y, Z
   b) X, Z
   c) Y

2. a) i) 2
   ii) 4
   iii) 6
   b) i) 4
   ii) 8
   iii) 12
1. How many outcomes are there in total? How many blue outcomes are there?
   a)   ____ outcomes  ____ blue outcomes
   b)   ____ outcomes  ____ blue outcomes

2. a) How many times do you expect grey when you spin the spinner …
   i) 4 times? ____  ii) 8 times? ____  iii) 12 times? ____
   b) How many times do you expect white when you spin the spinner …
   i) 4 times? ____  ii) 8 times? ____  iii) 12 times? ____
   c) Are the chances of landing on white or grey the same? ______
1. a) 6
   4

   b) 5
   3

2. a) i) 1
   ii) 2
   iii) 3

   b) i) 3
   ii) 6
   iii) 9

   c) no