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</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’s Guide identifies which lessons are covered by each quiz and test.

For Grades 1 to 3, we recommend that you read aloud the instructions on each test or quiz before students begin to work on the material. For young students or weak readers, we suggest that you read each question individually and allow students to complete the question before you read the next instruction.
Unit 10: Number Sense

Quiz (Lessons 48–52) — ON

Name: ______________________
Date: ________________

1. a)        b)
What has been divided into sets?     What has been divided into sets?
_________________________________  ______________________
How many sets? _____       How many sets? _____
How many in each set? _____      How many in each set? _____

2. Draw dots for the things being shared equally. Draw circles for the sets.
   a) 8 people
      2 cars
   b) 10 cookies
      5 plates

   How many in each car? _____           How many on each plate? _____

3. Divide the array equally into sets.
   a) 2 dots in each set
      6 dots
   b) 4 sets
      4 rows

   How many sets? _____       How many dots in each set? _____

4. Draw a picture using dots and circles to solve the problem.
   a) 12 girls sit at 3 tables.   b) 15 books. 5 books on each shelf.

   How many at each table? _____     How many shelves? _____

BONUS► Solve the problem.
   a) Ellen has 20 stickers. She puts 4 on each page of her book. How many pages does she use?

   _____ pages

   b) 3 friends share 9 cookies. How many cookies does each person have?

   _____ cookies
Unit 10: Number Sense

Quiz (Lessons 48–52) — ON

1. a) apples
   3
   2
   b) pencils
   2
   3

2. a)  
   4
   b)  

3. a)  
   6
   b)  

4. a)  
   4
   b)  

BONUS
   a)  5
   b)  3
Unit 10: Number Sense

Quiz (Lessons 53–55) — ON

1. a) Write a division sentence for the picture.

\[ \begin{array}{c}
\hline
\text{\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet}\n\hline
\end{array} \]

\[ \text{____} \div \text{____} = \text{____} \]

b) The answer to the division sentence shows the number of sets.
Draw a picture for the division sentence.

\[ 12 \div 3 = 4 \]

2. a) Draw a picture and write an addition sentence for the division sentence.

\[ \begin{array}{c}
\hline
\text{____} \div \text{____} = \text{____} \\
\end{array} \]

\[ 8 \div 2 = 4 \]

b) Draw a picture and write a division sentence for the addition sentence.

\[ 5 + 5 + 5 = 15 \]

3. a) Use the number line to complete the division sentence.

\[ \begin{array}{c}
\hline
0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad 11 \quad 12 \\
\hline
\end{array} \]

\[ \text{____} \div \text{2} = \text{____} \]

b) Use the number line to divide.

\[ \begin{array}{c}
\hline
0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad 11 \quad 12 \\
\hline
\end{array} \]

\[ 12 \div 4 = \text{____} \]

c) What division sentence does the picture show?

\[ \begin{array}{c}
\hline
0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad 11 \quad 12 \\
\hline
\end{array} \]

\[ \text{____} \div \text{____} = \text{____} \]
Unit 10: Number Sense

Quiz (Lessons 53–55) — ON

4. Fill in the blanks. Then write two division sentences.

_____ lines  _____ sets

_____ lines in each set

_____ + _____ = _____

_____ ÷ _____ = _____

BONUS► Write two division sentences for the picture.

_____ + _____ = _____

_____ + _____ = _____
Unit 10: Number Sense
Quiz (Lessons 53–55) — ON

1. a) 20, 4, 5
   b) [Diagram]

2. a) 2 + 2 + 2 + 2 = 8
   b) 15 ÷ 5 = 3

3. a) 12, 6
   b) Teacher to check number line.
   c) 10, 5, 2

4. 15, 3
   5
   15, 5, 3
   15, 3, 5

BONUS
   50, 5, 10
   50, 10, 5
1. Write two multiplication sentences and two division sentences for the picture.

   ![Picture]

   ______________ __
   ______________ __

2. Write a multiplication or division sentence to solve the problem.

   a) 12 things in total
   4 things in each set

   ______________
   How many sets? _____

   b) 5 sets
   4 things in each set

   ______________
   How many things altogether? _____

3. Fill in the table. Use a question mark to show what you don’t know.

<table>
<thead>
<tr>
<th>Total Number of Things</th>
<th>Number of Sets</th>
<th>Number in Each Set</th>
<th>Multiplication or Division Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 15 people</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 cars</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) 4 books on each shelf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 shelves</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Count the rows and columns. Then write two multiplication sentences and two division sentences for the array.

   ![Array]

   ________ ____________ ____ ______________
   ________ __________ ______ ______________

   _____ rows
   _____ columns
Unit 10: Number Sense

Quiz (Lessons 56–61) — ON

5. Bill arranges 3 rows of chairs with 5 chairs in each row. How many chairs are there altogether?

BONUS► There are 16 dots arranged in a rectangle. The number of rows and the number of columns are the same. How many rows are there?
1. \(4 \times 6 = 24, 6 \times 4 = 24\)
   \(24 \div 6 = 4, 24 \div 4 = 6\)

2. a) \(12 \div 4 = ?\)
   \(3\)

   b) \(5 \times 4 = ?\)
   \(20\)

3. a) \(15, 3, ?, 15 \div 3 = ?\)
   b) \(?, 7, 4, 7 \times 4 = ?\)

4. 5 rows
   4 columns
   \(4 \times 5 = 20\)
   \(5 \times 4 = 20\)
   \(20 \div 5 = 4\)
   \(20 \div 4 = 5\)

5. \(3 \times 5 = 15\)
   15 chairs altogether

**BONUS**
\(4 \times 4 = 16\)
4 rows
Unit 10: Number Sense

Test (Lessons 48–61) — ON

1. 

   a) How many sets of cherries? _____ 
   b) How many cherries in each set? _____

2. There are 15 people in 3 cars. Draw a picture using dots and circles to find how many people are in each car.

   There are _____ people in each car.

3. The answer to the division sentence 10 ÷ 2 = 5 shows the number of sets.
   a) Draw a picture for the division sentence.
      
      (Diagram of 10 circles divided into 2 sets)
   b) Write an addition sentence for the division sentence.
      ________________

4. Use the number line to complete the division sentence.

   (Number line with 18 points marked at intervals)

   _____ ÷ 3 = _____
5. Write two division statements for the picture.

\[
\begin{align*}
\text{____} \div \text{____} &= \text{____} \\
\text{____} \div \text{____} &= \text{____}
\end{align*}
\]

6. Count the rows and columns. Then write two multiplication sentences and two division sentences for the array.

\[
\begin{align*}
\text{____ rows} & \quad \text{__________} & \quad \text{__________} \\
\text{____ columns} & \quad \text{__________} & \quad \text{__________}
\end{align*}
\]

7. Fill in the table. Use a question mark to show what you don’t know.

<table>
<thead>
<tr>
<th>Total Number of Things</th>
<th>Number of Sets</th>
<th>Number in Each Set</th>
<th>Multiplication or Division Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 8 people</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 canoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) 7 stamps on each page</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 pages of stamps</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Write a multiplication or division sentence to solve the problem.

a) 6 sets, 3 things in each set

\[
\text{______________}
\]

How many things altogether? _____

b) 20 things, 5 sets

\[
\text{______________}
\]

How many things in each set? _____
9. Write a multiplication or division sentence to solve the problem.
   
   a) There are 4 boxes. There are 3 crayons in each box. How many crayons are there?

   b) There are 15 peaches and 3 baskets. How many peaches are in each basket?

   **BONUS** There are 80 marbles in 10 rows. How many marbles are in each row?
1. a) 4  
   b) 3  
2.  
   5  
3. a)  
   b) 2 + 2 + 2 + 2 + 2  
   = 10  
4. 18, 6  
5. 20, 5, 4  
   20, 4, 5  
6. 4 rows  
   6 columns  
   4 × 6 = 24  
   6 × 4 = 24  
   24 ÷ 4 = 6  
   24 ÷ 6 = 4  
7. a) 8, 2, ?, 8 ÷ 2 = ?  
   b) ?, 6, 7, 6 × 7 = ?  
8. a) 6 × 3 = ?  
   18  
   b) 20 ÷ 5 = ?  
   4  
9. a) 4 × 3 = 12  
   12 crayons in total  
   b) 15 ÷ 3 = 5  
   5 peaches in each basket  
BONUS  
   80 ÷ 10 = 8  
   8 marbles in each row
1. a) Fill in the T-table for the number of squares in each figure of the geometric pattern. Extend the number pattern.

<table>
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<tr>
<th>Figure</th>
<th>Number of Squares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

b) Write the rule for the number pattern.
   Start at _____ and ________________________________

2. Which number do you add or subtract each time? Write the rule for the number pattern.
   a) 15 , 12 , 9 , 6 , 3
   b) 1 , 5 , 9 , 13 , 17

   Start at ___________________           Start at ___________________
   ___________________                  ___________________

3. a) Write the number pattern the picture shows.
   _______________________________________

   b) Write a rule for the number pattern.
   Start at ________________________________

   23  24  25  26  27  28  29  30  31  32  33  34  35
Unit 11: Patterns and Algebra

Quiz (Lessons 13–14) — ON

4. Write the first 4 numbers in the number pattern. Show the pattern on the number line.
   Start at 32. Add 4 each time. _______________________________

5. Draw a decreasing pattern on the number line.

   a) Write the numbers in your pattern. _______________________________

   b) Write a rule for your number pattern.
      Start at ___________________________________________

BONUS ► Write the rule for the number pattern.
      925, 910, 895, 880, 865
      _______________________________
1. a) gap: +2
   
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>6</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>12</td>
</tr>
</tbody>
</table>
   
   b) 4, add 2 each time

2. a) gap: −3
   
   15 and subtract 3 each time

   b) gap: +4
   
   1 and add 4 each time

3. a) 23, 26, 29, 32, 35

   b) 23 and add 3 each time

4. 32, 36, 40, 44
   Teacher to check number line.

5. Answers will vary. Teacher to check.

BONUS

Start at 925 and subtract 15 each time.
Unit 11: Patterns and Algebra

Quiz (Lessons 15–19) — ON

1. a) Write four multiples of 7.
   
   \[ \begin{align*}
   1 \times 7 &= ____ \\
   2 \times 7 &= ____ \\
   3 \times 7 &= ____ \\
   4 \times 7 &= ____ \\
   \end{align*} \]

   b) On what day of the week do the multiples of 7 occur on the calendar?
   ______________________

2. Write “T” if the equation is true. Write “F” if the equation is false.

   \[ \begin{align*}
   a) 5 \times 8 &= 40 & \text{T} & \text{ b) } 9 + 6 &= 13 & \text{T} & \text{ c) } 42 \div 6 &= 8 & \text{T} \\
   d) 13 - 4 &= 9 & \text{T} & \text{ e) } 7 \times 7 &= 48 & \text{F} & \text{ f) } 6 + 7 &= 13 & \text{T} \end{align*} \]

3. Solve the equation by guessing and checking.

   \[ \begin{align*}
   a) 8 + ____ &= 13 \\
   b) ____ + 6 &= 15 \\
   c) 4 + ____ &= 12 \\
   \end{align*} \]

4. Write the fact family for the picture.

   \[ \begin{align*}
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } & \text{ } \\
   \end{align*} \]

5. Write the subtraction equation to find the missing number.

   \[ \begin{align*}
   a) 12 &= 7 + ____ \\
   b) 6 + ____ &= 14 \\
   c) 4 + ____ &= 11 \\
   \end{align*} \]
6. Solve the equation by guessing and checking.
   a) \( -5 = 8 \)  
   b) \( -7 = 9 \)  
   c) \( -3 = 9 \)

7. Write an addition equation to find the missing number.
   a) \( -5 = 7 \)  
   b) \( -8 = 9 \)  
   c) \( -6 = 13 \)

8. Write the other subtraction equation from the same fact family. Find the number in the box.
   a) \( 14 - \square = 9 \)  
   b) \( 13 - \square = 6 \)  
   c) \( 11 - \square = 4 \)

9. Solve the equation.
   a) \( 7 - x = 4 \)  
   b) \( 15 = 9 + y \)  
   c) \( 8 = x - 9 \)

BONUS➤ Solve the equation.
   \( 500 - x = 200 \)

\( x = \square \)
Unit 11: Patterns and Algebra

Quiz (Lessons 15–19) — ON

1. a) 7
   14
   21
   28
   b) Saturday

2. a) T
   b) F
   c) F
   d) T
   e) F
   f) T

3. a) 5
   b) 9
   c) 8

4. 2 + 4 = 6, 4 + 2 = 6,
   6 − 2 = 4, 6 − 4 = 2

5. a) 12 − 7 = 5
   b) 14 − 6 = 8
   c) 11 − 4 = 7

6. a) 13
   b) 16
   c) 12

7. a) 7 + 5 = 12
   b) 9 + 8 = 17
   c) 13 + 6 = 19

8. a) 14 − 9 = 5
   b) 13 − 6 = 7
   c) 11 − 4 = 7

9. a) 7 − 4 = 3
   x = 3
   b) 15 − 9 = 6
   y = 6
   c) 8 + 9 = 17
   x = 17

**BONUS**

500 − 200 = 300
x = 300
Unit 11: Patterns and Algebra

Test (Lessons 13–19) — ON

Name: ______________________

Date: ________________

1. a) Fill in the T-table for the number of triangles in each figure of the geometric pattern. Extend the number pattern.

<table>
<thead>
<tr>
<th>Figure Number</th>
<th>Number of Triangles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

b) Write the rule for the number pattern.

Start at _____ and _______________________________________

2. a) Write the number pattern the picture shows.

_________________________________________

b) Write a rule for the number pattern.

Start at _____ and _________________________________

3. Which number do you add or subtract each time? Write the rule for the number pattern.

a) 15 , 25 , 35 , 45 , 55

Start at _______________________

b) 65 , 56 , 47 , 38 , 29

Start at _______________________

Sample Unit Quizzes and Tests for Grade 3
4. Write the first 4 numbers in the number pattern. Show the pattern on the number line.
   Start at 75. Subtract 3 each time. ___________________________

5. a) Describe the number pattern in the shaded row.
   Start at _____, add _____ each time.
   b) The shaded numbers are all multiples of _____.

<table>
<thead>
<tr>
<th>31</th>
<th>32</th>
<th>33</th>
<th>34</th>
<th>35</th>
<th>36</th>
<th>37</th>
<th>38</th>
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<tbody>
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6. Write “T” if the equation is true. Write “F” if the equation is false.
   a) $9 \times 2 = 11$ _____ b) $7 + 4 = 11$ _____ c) $6 + 6 = 36$ _____

7. Write the subtraction equation to find the missing number.
   a) $14 = 9 +$    b) $3 +$ = 11    c) $17 = 8 +$
   __________________    __________________    __________________

8. Write the addition equation to find the missing number.
   a) $-$ 7 = 5    b) $-$ 8 = 6    c) $-$ 4 = 7
   __________________    __________________    __________________
9. Write the other subtraction equation from the same fact family. Find the number in the box.
   a) $12 - \square = 3$
   b) $16 - \square = 9$
   c) $13 - \square = 6$

10. Solve the equation.
   a) $12 - x = 4$
   b) $14 = 8 + y$
   c) $7 = y - 3$

   $x = \square$
   $y = \square$
   $y = \square$

11. Tania wants to solve the equation $7 + \square = 12$. Explain how knowing the fact family can help her solve the equation.

**BONUS** Solve the equation.
   a) $34 + 23 + x = 67$
   b) $48 = 57 - x$
Unit 11: Patterns and Algebra

Test (Lessons 13–19) — ON

1. a) gap: +4
   
   | 3 |
   | 7 |
   | 11 |
   | 15 |
   | 19 |

   b) 3, add 4 each time

2. a) 41, 44, 47, 50, 53, 56

   b) 41, add 3 each time

3. a) gap: +10

   15 and add 10 each time

   b) gap: −9

   65 and subtract 9 each time

4. 75, 72, 69, 66

   Teacher to check number line.

5. a) 40, 10

   b) 10

6. a) F

   b) T

   c) F

7. a) 14 − 9 = 5

   b) 11 − 3 = 8

   c) 17 − 8 = 9

8. a) 7 + 5 = 12

   b) 8 + 6 = 14

   c) 7 + 4 = 11

9. a) 12 − 3 = 9

   b) 16 − 9 = 7

   c) 13 − 6 = 7

10. a) 12 − 4 = 8

    x = 8

   b) 14 − 8 = 6

    y = 6

   c) 7 + 3 = 10

    y = 10

11. Sample answer:

    If Tania knows the fact family, she knows that 12 − 7 = 5.

   BONUS

   a) 57 + x = 67

   67 − 57 = 10

   x = 10

   b) 48 = 57 − x

   57 − 48 = 9

   x = 9
Unit 12: Number Sense

Quiz (Lessons 62–67) — ON

1. Match the shaded part with the unit fraction.

   A.  
   B.  
   C.  
   D.  

   a) one eighth  
   b) one sixth  
   c) one fourth  
   d) one half

2. Explain why the picture does not show one fourth.

   ____________________________________________
   ____________________________________________

3. Match the unit fraction with its name.

   A. one fourth  
   B. one sixth  
   C. one half  
   D. one eighth

   a) \( \frac{1}{2} \)  
   b) \( \frac{1}{8} \)  
   c) \( \frac{1}{4} \)  
   d) \( \frac{1}{6} \)

4. Write the fraction shown by the shaded parts.

   a)  
   b)  

5. a) Write the numerator of the fraction \( \frac{7}{8} \).  
   b) Write the denominator of the fraction \( \frac{5}{6} \).
6. What fraction of the pattern block is the shaded area?

a)  

b)  

c)  

7. Shade $\frac{1}{2}$ of the shape in two different ways.

a)  

b)  

8. Add a line to the picture to make four equal parts.

a)  

b)  

c)  

9. a) Add a line to the picture to make eight equal parts.

b) Add three lines to the picture to make six equal parts.
Unit 12: Number Sense

Quiz (Lessons 62–67) — ON

10. a) Draw a line to create 4 equal parts. Then shade \( \frac{3}{4} \) of the whole.

   ![Diagram of a square divided into four equal parts with three shaded]

   b) Draw a line to create 6 equal parts. Then shade \( \frac{5}{6} \) of the whole.

   ![Diagram of a hexagon divided into six equal parts with five shaded]

**BONUS** Draw four lines to make eight equal parts.

   ![Diagram of an octagon divided into eight equal parts]
1. a) D  
b) C  
c) A  
d) B  
2. Not all parts are equal.  
3. a) C  
b) D  
c) A  
d) B  
4. a) \( \frac{5}{8} \)  
b) \( \frac{3}{4} \)  
5. a) 7  
b) 6  
6. a) \( \frac{2}{4} \)  
b) \( \frac{3}{6} \)  
c) \( \frac{2}{3} \)  
7. Teacher to check.  
8. Teacher to check.  
9. Teacher to check.  
10. Teacher to check.  
BONUS  
Teacher to check.
Unit 12: Number Sense

Quiz (Lessons 68, 70) — ON

1. Find the total area, in squares, by circling pairs of half squares.

   a)  

   b)  

2. Find the area of the shaded parts by counting the whole squares and half squares.

   a)  

   b)  

   Area of half squares = _____  

   Area of whole squares = _____  

   Total area = _____

   Area of half squares = _____  

   Area of whole squares = _____  

   Total area = _____

BONUS  

Use the diagram in Question 2.a) to answer the question.

   a) What is the area of the non-shaded parts? _____

   b) What is the sum of the areas of the shaded and non-shaded parts? _____

   c) What is the area of the rectangle? _____

   d) Explain how you can use the answer to part b) to check that the areas of the shaded parts and non-shaded parts are correct. _____________________________
Unit 12: Number Sense
Quiz (Lessons 68, 70) — ON

1. a) 2
   b) 3
2. a) 2
   b) 2
   4
   6
   8

BONUS
a) 11
b) 15
c) 15
d) The sum of the shaded and non-shaded parts should equal the total area of the rectangle.
1. Match the shaded part with the unit fraction.

A.  

B.  

C.  

D.  

a) \( \frac{1}{3} \)  

b) \( \frac{1}{6} \)  

c) \( \frac{1}{2} \)  

d) \( \frac{1}{8} \)  

2. Billy thinks the shaded area shows the fraction \( \frac{3}{4} \).
Is he correct? Explain.  

3. Write the fraction shown by the shaded parts.

a)  

b)  

c)  

4. Shade \( \frac{1}{2} \) of the shape in two different ways.

a)  

b)  

5. Draw a line to make 8 equal parts.

a)  

b)  


6. Draw two lines to make 3 equal parts. Then shade $\frac{2}{3}$ of the parts.

7. Find the total area, in squares, by circling pairs of half squares.
   a) ____ squares
   b) ____ squares

8. Find the area of the shaded parts by counting the whole squares and half squares.
   a) Area of half squares = ____
      Area of whole squares = ____
      Total area = ____
   b) Area of half squares = ____
      Area of whole squares = ____
      Total area = ____

BONUS► Each of the triangles is one fourth of a square. Find the total area of the shaded region.
   Area of one-fourth squares = ____
   Area of whole squares = ____
   Total area = ____
1. a) C  
b) A  
c) D  
d) B  
2. No. There are 5 equal parts. The denominator should be 5.  
3. a) \( \frac{5}{6} \)  
b) \( \frac{3}{8} \)  
c) \( \frac{1}{2} \)  
4. Teacher to check.  
5. Teacher to check.  
6. Teacher to check.  
7. a) 4  
b) 3  
8. a) \( \frac{3}{4} \)  
    \( \frac{7}{7} \)  
b) \( \frac{2}{3} \)  
    \( \frac{5}{5} \)  
BONUS  
2  
5  
7
Unit 13: Measurement

Quiz (Lessons 14, 16–21) — ON

1. Write the time in words and numbers.
   a) 07:53
   b) 12:08

2. Write the time the way it looks on a digital clock.
   a) 9 minutes past 12
   b) 23 minutes past 8

3. What time is it?
   a) __________________
   b) __________________
   c) __________________

4. Circle the minute hand. Then count by 5s to write the minutes.
   a) 3: ______
   b) 11: ______
   c) 9: ______
Unit 13: Measurement

Quiz (Lessons 14, 16–21) — ON

5. What time is it?
   a) 
   b) 
   c) 

   ____ : ____  ____ : ____  ____ : ____

6. Write the time in words. Use “half,” “quarter,” and “o’clock” when you can.
   a) 
   b) 
   c) 04:30

   __________     _______     __________________
   __________     __________________
   __________________

7. What time is it?
   a) 
   b) 
   BONUS ►

   ____ minutes to ____  ____ minutes to ____  ____ minutes to ____
Unit 13: Measurement

Quiz (Lessons 14, 16–21) — ON

8. Write the time. Use “a.m.” or “p.m.”
   a) 
   
   Jane eats dinner at 
   
   b) 
   
   Greg wakes up at 
   

9. Change the weeks to days. Add the leftover days.
   a) 1 week 6 days
      = ________ days
      = _____ days
   b) 2 weeks 3 days
      = ________ days
      = _____ days

BONUS ► What time is it?

   ____ minutes to ____
Unit 13: Measurement

Quiz (Lessons 14, 16–21) — ON

1. a) 53 minutes past 7
   b) 8 minutes past 12
2. a) 12:09
   b) 08:23
3. a) 4 o’clock
   b) 8 o’clock
   c) 11 o’clock
4. a) 35
   b) 10
   c) 25
5. a) 1:30
   b) 9:20
   c) 6:50
6. a) quarter past eleven
   b) eight o’clock
   c) half past four
7. a) 10, 2
   b) 20, 11

**BONUS**
25, 12

8. a) 6:30 p.m.
   b) 8:15 a.m.
9. a) 7 + 6
   13
   b) 14 + 3
   17

**BONUS**
10, 1
Unit 13: Measurement
Test (Lessons 14, 16–21) — ON

Name: ______________________
Date: ________________

1. Match the clock with the time.

A.  
B.  
C.  
D.  
E.  
F.  

a) half past 7 _____  
b) 10 minutes to 5 _____  
c) 11 o’clock _____  
d) 20 minutes past 9 _____  
e) 5 minutes past 12 _____  
f) quarter past 4 _____

2. Match the clock with the time.

A. 07:15  
B. 08:30  
C. 12:03  
D. 04:35  
E. 06:50  
F. 10:00

a) 10 minutes to 7 _____  
b) 3 minutes past 12 _____  
c) 35 minutes past 4 _____  
d) quarter past 7 _____  
e) 10 o’clock _____  
f) half past 9 _____
3. Draw the hands on the clock. Then write the time.
   a) The hour hand is on the 3.
      The minute hand is on the 12.
      _____ : _____

   b) The minute hand is on the 6.
      The hour hand is between the 9 and 10.
      _____ : _____

4. Write the time. Use “a.m.” or “p.m.”
   a) Bob has recess at
   b) Ashley does her homework at
      __________________       __________________

5. Dory thinks the time on the clock is 2:45.
   David thinks it is a quarter to 3.
   Who is correct? Explain.
   _____________________________________________
   _____________________________________________
   _____________________________________________
6. The 2010 Vancouver Olympics took place over 17 days.
   The Olympics lasted between _____ and _____ weeks.

7. What unit of time would you use in the answer? Choose from seconds, minutes, hours, days, weeks, months, and years.
   a) How long is the December holiday break? ________________
   b) How old are you? ________________
   c) How long does summer last? ________________
   d) How long does it take to eat a grape? ________________
   e) How long does it take to finish a 500-piece puzzle? ________________

8. Circle the month that has the fewest number of days.
   January  February  March  April  May  June
   July  August  September  October  November  December

9. January has 31 days. Jasmin ordered a television on January 28. It will be delivered in 10 days. On what day and month will the television be delivered? ________________

10. Tom reads for 2 hours each day for 2 weeks.
    a) How many days are there in 2 weeks? _____
    b) What is the total number of hours Tom reads? _____
    c) Is the total number of hours more than one day? Explain. ________________
11. Change the days to hours. Add the leftover hours.
   a) 3 days 2 hours
   = ________ hours
   = _______ hours
   b) 2 days 10 hours
   = ________ hours
   = _______ hours

BONUS► There are 12 months in a year.
   How many months are in 5 years? _____
Unit 13: Measurement

Test (Lessons 14, 16–21) — ON

1. a) B  
b) F  
c) A  
d) E  
e) C  
f) D

2. a) E  
b) C  
c) D  
d) A  
e) F  
f) B

3. Teacher to check hands.  
a) 3:00  
b) 9:30

4. a) 10:30 a.m.  
b) 4:45 p.m.

5. They are both correct.  
45 minutes past 2 is the same as quarter to 3.

6. 2, 3

7. a) weeks  
b) years  
c) months  
d) seconds  
e) hours

8. February

9. February 7

10. a) 14  
b) 28  
c) Yes. 28 is greater than 24.

11. a) $72 + 2$  
     $74$  
     $b) 48 + 10$  
     $58$

BONUS

60
Unit 14: Measurement

Quiz (Lessons 23–27) — ON

1. Circle the container with more liquid.
   a)  
   b)  
   c)  

2. Circle the container with more liquid.
   a)  
   b)  

3. Find the capacity of the container and the volume of the liquid.
   a)  
      Capacity = ______  
      Volume = ______  
   b)  
      Capacity = ______  
      Volume = ______  

4. Circle the object that has more mass.
   a)  
   b)  

Unit 14: Measurement

Quiz (Lessons 23–27) — ON

5. Circle the lighter object.
   a) ![Glasses and a wheel on a balance scale]
   b) ![A book and a light bulb on a balance scale]

6. Circle the objects that have a mass of about 1 g each.
   ![A box, tickets, a wheel, and a small object on a balance scale]

7. Circle the objects that have a mass of about 1 kg each.
   ![A wheel, a box, a milk carton, a small object, and a baseball bat on a balance scale]

8. Circle the better estimate for the mass of the object.
   a) 50 g  b) 50 kg  c) 10 g  10 kg  2 g  2 kg

a) ![Image]

b) ![Image]

10. Write the missing mass needed to make the balance level.

a) ![Image]

b) ![Image]

? = ______  

? = ______

11. The barbell has a large plate and a small plate on each side. The large plates each weigh 10 kg. The small plates each weigh 5 kg. The barbell weighs 10 kg. What is the total weight of the barbell and plates?

BONUS ► The panda at a zoo eats 10 kg of bamboo each day. How much will the panda eat in 2 weeks?
Unit 14: Measurement

Quiz (Lessons 23–27) — ON

1. Circle the following:
   a) glass on the left
   b) bottle on the right
   c) container on the right

2. Circle the following:
   a) glass on the left
   b) bottle on the right

3. a) 3 L
   2 L
   b) 6 L
   4 L

4. Circle the following:
   a) barbell
   b) bus

5. Circle the following:
   a) glasses
   b) lightbulb

6. circle ticket and paperclip

7. circle book, milk carton, and bat

8. Circle the following:
   a) 50 g
   b) 10 kg
   c) 2 kg

9. Circle the following:
   a) cylinder
   b) face

10. a) 25 g
    b) 9 g

11. 10 + 10 + 5 + 5 + 10
    = 40 kg

BONUS

(7 × 10 kg) + (7 × 10 kg)
= 70 kg + 70 kg
= 140 kg
Unit 14: Measurement

Quiz (Lessons 28–29) — ON

1. a) How many one-half kilogram weights make 1 kg? _____
   b) How many one-quarter kilogram weights make 1 kg? _____
   BONUS ▶ How many one-eighth kilogram weights make 1 kg? _____

2. a) Circle the objects that weigh about one half of a kilogram.

   ![Objects](image1)

   b) Circle the objects that weigh about one quarter of a kilogram.

   ![Objects](image2)

3. Circle the glass with colder water.
   a) ![Glass](image3)
   b) ![Glass](image4)

4. Circle the thermometer that shows a higher temperature.
   a) ![Thermometer](image5)
   b) ![Thermometer](image6)
Unit 14: Measurement

Quiz (Lessons 28–29) — ON

5. The picture shows part of a thermometer. What temperature does the thermometer show?

   a) 30°  
   b) 50°  
   c) 90°  

6. Match the temperature with the description.

   A. temperature at which water boils  
   B. temperature at which water freezes  
   C. temperature of the human body

   a) 37°C  
   b) 0°C  
   c) 100°C  

7. Match the temperature with the description.

   A. very cold outside  
   B. very hot outside  
   C. cool outside

   a) 35°C  
   b) 2°C  
   c) 10°C  

BONUS▶ The picture shows parts of two thermometers. How many degrees warmer is the first thermometer than the second thermometer?

   90°  
   80°  
   90°  
   80°
Unit 14: Measurement

Quiz (Lessons 28–29) — ON

1. a) 2
b) 4

BONUS
8

2. Circle the following:
   a) box of spaghetti and bananas
   b) orange and cookies

3. Circle the following:
   a) glass on the left
   b) glass on the right

4. Circle the following:
   a) thermometer on the right
   b) thermometer on the left

5. a) 28°
b) 42°
c) 89°

6. a) C
b) B
c) A

7. a) B
b) A
c) C

BONUS
88° − 81° = 7° warmer
Unit 14: Measurement

Test (Lessons 23–24, 26–29) — ON

1. Circle the container with more liquid.
   a) ![Container A](image1)
   b) ![Container B](image2)
   c) ![Container C](image3)

2. Fred thinks that the container on the left has more liquid
   because the liquid is taller. Is he correct? _____
   Explain. ________________________________________
   ______________________________________________

3. Circle the container with more liquid.
   a) ![Container A](image4)
   ![Container B](image5)

   b) ![Container A](image6)
   ![Container B](image7)

4. Find the capacity of the container and the volume of the liquid.
   a) Capacity = _____
      Volume = _____
   ![Container A](image8)

   b) Capacity = _____
      Volume = _____
   ![Container B](image9)
5. The capacity of a container is 6 L. It contains 2 L of water. How much more water can be added before the container is filled to its capacity?

________________

6. Write the missing mass needed to make the balance level.

? = _____

7. A cart can carry a maximum of 50 kg. There are 5 packages each with a mass of 9 kg on the cart.
   a) What is the total mass of the packages? ________________
   b) What is the greatest mass of a package that can be added to the cart? ________________

8. One grapefruit weighs one quarter of a kilogram. A bag of grapefruits weighs 2 kg. How many grapefruits are in the bag? Explain.

____________________________________________________________

9. Circle the thermometer that shows a higher temperature.
   a)        b)
10. Circle the thermometer that shows the lowest temperature.

11. The picture shows part of a thermometer. What temperature does the thermometer show?

   a)  
   b)  
   c)  

12. a) At what temperature does water boil? _____
   
   b) At what temperature does water freeze? _____

BONUS ► Normal body temperature is 37°C. If your body temperature is higher than 37°, you have a fever. If your body temperature reaches 39°, you need to see a doctor. How many degrees above normal is your body temperature if you need to see a doctor for your fever?

   ______________________
1. Circle the following:
   a) fishbowl on the left
   b) glass on the right
   c) glass on the right

2. No.
The containers are not the same size so you cannot compare the heights of the liquids.

3. Circle the following:
   a) glass on the left
   b) fishbowl

4. a) 6 L
   5 L
   b) 3 L
   1 L

5. 6 L − 2 L = 4 L

6. 3 g

7. a) 5 × 9 kg = 45 kg
   b) 50 kg − 45 kg = 5 kg

8. 4 grapefruits weigh 1 kg, so 8 grapefruits weigh 2 kg.
   There are 8 grapefruits in the bag.

9. Circle the following:
   a) thermometer on the left
   b) thermometer on the right

10. circle the thermometer on the left

11. a) 53°
   b) 14°
   c) 36°

12. a) 100°C
   b) 0°C

**BONUS**
2°C
Unit 15: Number Sense

Quiz (Lessons 71–72) — ON

Name: ______________________

Date: ________________

1. Find the multiples of 10 before and after the number.
   a) _____, 52, _____
   b) _____, 38, _____
   c) _____, 16, _____

2. Round to the nearest multiple of 10. Circle the answer.
   a) 27 is rounded to 20 or 30
   b) 31 is rounded to 30 or 40
   c) 85 is rounded to 80 or 90
   d) 13 is rounded to 10 or 20

3. Round to the nearest 10.
   a) 39 _____
   b) 71 _____
   c) 45 _____
   d) 93 _____
   e) 24 _____
   f) 62 _____

4. Clara has 49 baseball cards and 23 hockey cards. Round each number to the nearest ten to estimate the total number of cards.

   __________________ ___________________________________

5. John collects 21 cans each day for five days. Round the number of cans to the nearest ten to estimate the total number of cans he collected.

   __________________ ___________________________________

BONUS► Use multiplication to estimate the total number of cans John collected. _____________________________

BONUS► There are 12 bottles of orange juice in a case. A warehouse has 20 cases. Round the number of bottles of juice in each case to the nearest ten to estimate the number of bottles of orange juice in the warehouse.

   ____________________________________________________
Unit 15: Number Sense

Quiz (Lessons 71–72) — ON

1. a) 50, 60
   b) 30, 40
   c) 10, 20

2. Circle the following:
   a) 30
   b) 30
   c) 90
   d) 10

3. a) 40
   b) 70
   c) 50
   d) 90
   e) 20
   f) 60

4. 50 + 20 = 70

5. 20 + 20 + 20 + 20 + 20
   = 100

   BONUS
   5 × 20 = 100

   BONUS
   10 × 20 = 200
1. Find the multiples of 10 before and after the number.
   a) _____, 11, _____  b) _____, 98, _____  c) _____, 7, _____

2. Round to the nearest multiple of 10. Circle the answer.
   a) 17 is rounded to 10 or 20  b) 99 is rounded to 90 or 100
   c) 25 is rounded to 20 or 30  d) 54 is rounded to 50 or 60

3. Round to the nearest 10.
   a) 9 _____  b) 97 _____  c) 29 _____
   d) 11 _____  e) 34 _____  f) 71 _____

4. Anna earned $26 this week mowing lawns. She earned $39 last week. Round each number to the nearest ten to estimate the total amount she earned.

   ____________________________________________

5. Tina did 29 push-ups each day for 4 days. Round the number of push-ups to estimate the total number of push-ups she did.

   ____________________________________________

   **BONUS** Use multiplication to estimate the total number of push-ups Tina did.

   ____________________________________________

   **BONUS** A package of strawberries contains 28 strawberries. There are 10 packages of strawberries at a grocery store. Round the number of strawberries to the nearest ten to estimate the total number of strawberries at the store.

   ____________________________________________
Unit 15: Number Sense

Test (Lessons 71–72) — ON

1. a) 10, 20
   b) 90, 100
   c) 0, 10

2. Circle the following:
   a) 20
   b) 100
   c) 30
   d) 50

3. a) 10
   b) 100
   c) 30
   d) 10
   e) 30
   f) 70

4. 30 + 40 = 70

5. 30 + 30 + 30 + 30 = 120

BONUS

4 × 30 = 120

BONUS

30 × 10 = 300
Unit 16: Number Sense

Quiz (Lessons 76–81) — ON

1. Match the coin with its name.

A. dime  
B. nickel  
C. quarter  
D. penny  
E. loonie

a)    b)     c)     d)    e)

2. Write the value of the coin.

a) dime _____ ¢  b) nickel _____ ¢  c) loonie _____ ¢

d) quarter _____ ¢  e) penny _____ ¢

3. Count on by the first coin value given and then by the second coin value.

a)_____, _____    _____,   _____,   _____

b)_____,    _____,    _____       _____, _____

4. Write the value of the coins in order from greatest value to least value. Then count on to find the total amount.

a) 25¢  5¢  25¢  5¢  b) 5¢  25¢  5¢  10¢
Unit 16: Number Sense

Quiz (Lessons 76–81) — ON

5. What is the total amount in cents? Count on by the greatest coin value first.
   a) 
   b) 
   Total amount = __________       Total amount = __________

6. Write the two coin values needed to make the total.
   a) 75¢
   b) 130¢
   

7. Draw the least number of coins to make the total.
   a) 65¢      b) 145¢

8. Find the difference owed from a dollar for the given amount.
   a) 47¢  
   b) 63¢
   Difference = _______       Difference = _______

BONUS► What is the total amount in cents?

Total amount = ___________
1. a) D  
b) C  
c) E  
d) B  
e) A  
2. a) 10  
b) 5  
c) 100  
d) 25  
e) 1  
3. a) 10, 20, 25, 30, 35  
b) 25, 50, 75, 76, 77  
4. a) 25, 25, 5, 5  
   25, 50, 55, 60  
b) 25, 10, 5, 5  
   25, 35, 40, 45  
5. a) 65¢  
b) 21¢  
6. a) 10¢, 5¢  
b) 25¢, 5¢  
7. a) 25¢, 25¢, 10¢, 5¢  
b) 100¢, 25¢, 10¢, 10¢  
8. a) 53¢  
b) 37¢  
BONUS  
110¢
Unit 16: Number Sense

Quiz (Lessons 82–84, 86, 88–89) — ON

1. Write the number of dollars using cents.
   a) ______¢
   b) ______¢
   c) ______¢

2. Fill in the blanks.
   a) 500¢ = _____ loonies
   b) 500¢ = _____ loonies + _____ toonie
   c) 500¢ = _____ loonie + _____ toonies

3. Find the total number of dollars and cents. Write the answer in dollars and cents notation.
   a) $____ and _____¢
      __________
   b) $____ and _____¢
      __________
   c) $____ and _____¢
      __________

4. Write the value of the missing money needed to make the total.
   a) $3 and 55¢
      __________
   b) $7 and 90¢
      __________
Unit 16: Number Sense

Quiz (Lessons 82–84, 86, 88–89) — ON

5. Find the total amount of money.
   a) 
   b) 

6. Use multiplication and addition to write the value of the bills and coins. Then find the total value.

BONUS► Which has more value, two $5 bills or five toonies? Explain.
### ADVANCED

7. Complete the table to round the number to the nearest multiple of 5.

<table>
<thead>
<tr>
<th>Number</th>
<th>Multiple of 5 Before</th>
<th>Multiple of 5 After</th>
<th>Picture</th>
<th>Nearest Multiple of 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td></td>
<td></td>
<td>![Picture]</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td></td>
<td></td>
<td>![Picture]</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td>![Picture]</td>
<td></td>
</tr>
</tbody>
</table>

8. Round the money to the nearest nickel by rounding the number of cents to the nearest multiple of 5.
   a) 72¢ _____  
   b) 49¢ _____  
   c) 124¢ _____

9. You need to pay the given amount. You have a 10-dollar bill. Round the amount to the nearest nickel. Then find the difference owed.
   $4.23
   ![Diagram]  
   Difference owed
   = ____________
1. a) 200  
b) 100  
c) 500  
2. a) 5  
b) 3, 1  
c) 1, 2  
3. a) 4, 15  
   $4.15  
b) 2, 8  
   $2.08  
c) 8, 25  
   $8.25  
4. a) 10¢, 10¢  
b) $2  
5. a) $70  
b) $100  
6. \( (2 \times $5) + (3 \times $2) \)  
   \( = $10 + $6 \)  
   \( = $16 \)  

**BONUS**  
They have the same value.  
\( 2 \times $5 = $10 \)  
\( 5 \times $2 = $10 \)  

**ADVANCED**  
7. Teacher to check picture.  

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
<th>Nearest</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>75</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>10</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

8. a) 70¢  
b) 50¢  
c) 125¢  
9. $5.75
1. Write the value of the money in cents.
   
   a) ______¢
   b) ______¢
   c) ______¢
   d) ______¢
   e) ______¢
   f) ______¢

2. Count on by the first coin value given and then by the next coin value to find the total value of the coins in cents.
   
   a) _______, _______, _______, _______, _______, _______
   b) _______, _______, _______, _______, _______, _______

3. Find the total amount of money in dollars.
   
   a) $______
   b) $______
Unit 16: Number Sense

Test (Lessons 76–84, 86, 89) — ON

4. Draw the least number of coins to make the total.
   a) 95¢
   b) 165¢

5. Find the difference owed from a dollar for the given amount.
   a) Difference = _______
   b) Difference = _______

6. Find the total number of dollars and cents. Write the answer in dollars and cents notation.
   a) $_____ and _____¢
   b) $_____ and _____¢

7. Jen thinks that a $5 bill has the same value as two toonies and a loonie. Is she correct? Explain.
8. Use multiplication and addition to write the value of the bills and coins. Then find the total value.

a) ________________

b) ________________
9. You need to pay the given amount. You have a 10-dollar bill.
   Round the amount to the nearest nickel. Then find the difference owed.

   a) $5.24
   
   Difference owed
   $$\phantom{0} = \phantom{0}$$

   
   b) $2.73
   
   Difference owed
   $$\phantom{0} = \phantom{0}$$
Unit 16: Number Sense

Test (Lessons 76–84, 86, 89) — ON

1. a) 25
   b) 1
   c) 5
   d) 100
   e) 500
   f) 10

2. a) 25¢, 50¢, 60¢, 70¢, 80¢, 85¢
   b) 100¢, 200¢, 210¢, 211¢, 212¢, 213¢

3. a) 9
   b) 27

4. a) 25¢, 25¢, 25¢, 10¢, 10¢
   b) 100¢, 25¢, 25¢, 10¢, 5¢

5. a) 35¢
   b) 76¢

6. a) 2.45
   $2.45
   b) 7.5
   $7.05

7. Yes.
   2 toonies = $4,
   1 loonie = $1, total = $5

8. a) (3 × 20¢) + (4 × 5¢)
    = 60¢ + 20¢
    = 80¢
   b) (2 × $20) + (3 × $10)
    = $40 + $30
    = $70

   ADVANCED

9. a) $4.75
   b) $7.25
Unit 17: Geometry

Quiz (Lessons 15–18) — ON

1. Count the squares to say how many units the dot slides from A to B.
   a)    b)    c)
   ____ units right  ____ units left  ____ units right
   ____ units up    ____ units up    ____ units up

2. Translate the shape.
   a) 3 units right  b) 2 units left, 3 units down  c) 1 unit right, 4 units up

3. Describe how to translate square A to square B.
   a)    b)    c)
   ____ units _______  ____ units _______,  ____ units _______
   ____ units _______  ____ units _______  ____ units _______
Unit 17: Geometry

Quiz (Lessons 15–18) — ON

4. Draw the line of symmetry.
   a) 
   b) 

5. Reflect the shape in the dashed mirror line.
   a) 
   b) 

6. Do you need a translation, reflection, or rotation to get from one shape to the other? Choose one.
   a) 
   b) 
   c) 

BONUS ▶ Reflect the shape in the mirror line A. Then reflect the new shape in the mirror line B.
Unit 17: Geometry

Quiz (Lessons 15–18) — ON

1. a) 3
   b) 4
       3
   c) 2
       4
2. Teacher to check.
3. a) 3, left
   b) 2, right
       4, down
   c) 3, left
       2, down
4. Teacher to check.
5. Teacher to check.
6. a) translation
   b) rotation
   c) reflection

BONUS

Teacher to check.
Unit 17: Geometry

Name: ______________________

Date: ________________

Quiz (Lessons 19–22) — ON

1. Is the highlighted part a vertex, edge, or face?
   a) ______________________
   b) ______________________
   c) ______________________

2. Count the vertices and the edges.
   a) ______ vertices
      ______ edges
   b) ______ vertices
      ______ edges
   c) ______ vertices
      ______ edges

3. Is the 3-D shape a pyramid or a prism?
   a) ______________________
   b) ______________________
   c) ______________________
4. Match the shape to its name.

A.  
B.  
C.  

a) pentagonal prism   b) hexagonal pyramid   c) hexagonal prism

5. Circle the 3-D shape that matches the net.

A.   
B.   
C.   

6. For Question 5, explain why you chose that 3-D shape.

BONUS  A prism has a base with 12 sides.

How many vertices does it have?  ____
Unit 17: Geometry

Quiz (Lessons 19–22) — ON

1. a) edge
   b) face
   c) vertex

2. a) 4
   6
   b) 8
   12
   c) 7
   12

3. a) prism
   b) pyramid
   c) prism

4. a) B
   b) C
   c) A

5. circle C

6. Answers will vary. Teacher to check.

BONUS

24
Unit 17: Geometry
Test (Lessons 15–22) — ON

1. Translate the dot.
   a) 3 units left
   b) 2 units right 4 units down
   c) 4 units left 2 units up

2. Describe how to translate triangle A to triangle B.
   a)  
   b)  
   c)  
   d)  
   e)  
   f)  
   g)  

3. Tessa thinks the dashed line is the line of symmetry for the shape. Is she correct? Explain.

__________________________________________________________________________
__________________________________________________________________________
Unit 17: Geometry
Test (Lessons 15–22) — ON

4. Draw the line of symmetry.
   a) ![Heart Shape]
   b) ![Rectangle]

5. Do you need a translation, reflection, or rotation to get from the shaded triangle to the given triangle?
   a) Triangle A _________________
   b) Triangle B _________________
   c) Triangle C _________________

6. Match the net with the 3-D shape.
   A.
   B.
   C.
   a) ![Net of Pyramid]
   b) ![Net of Octahedron]
   c) ![Net of Cube]
Unit 17: Geometry
Test (Lessons 15–22) — ON

7. Count the vertices and the edges.
   
   a) 
   
   b) 
   
   c) 
   
   _____ vertices  _____ vertices  _____ vertices
   
   _____ edges  _____ edges  _____ edges

8. A 3-D shape has a base with 5 vertices. If there are 6 vertices altogether, is the shape a prism or a pyramid? Explain.

   _______________________________________________
   
   _______________________________________________
   

BONUS► I am a 3-D shape. I have two identical bases, each with 8 sides.
   a) What shape am I? ___________________________
   
   b) How many faces do I have? _____
1. Teacher to check.

2. a) 4, left
   2, up
b) 3, right
   3, up
c) 2, up

3. No. If you fold the figure along the dotted line, the top part does not cover the bottom part.

4. Teacher to check.

5. a) rotation
b) reflection
c) translation

6. a) A
b) C
c) B

7. a) 6
   9
b) 10
   15
c) 5
   8

8. Sample answer:
   Pyramids have one more vertex than the number of vertices in the base. The shape is a pyramid.

   BONUS
   a) octagonal prism
   b) 10
Unit 18: Probability and Data Management

Quiz (Lessons 4–9) — ON

1. Use the pictograph to answer the questions.

   Cost of a Slice of Pizza \( \$ = 1 \text{ dollar} \)

<table>
<thead>
<tr>
<th>Pizza</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim’s Pizza</td>
<td>$</td>
</tr>
<tr>
<td>Yu’s Pizza</td>
<td>$</td>
</tr>
<tr>
<td>Tony’s Pizza</td>
<td>$</td>
</tr>
</tbody>
</table>

   a) How much more does a slice of pizza cost at Yu’s Pizza than at Kim’s Pizza? _____

   b) How much do 3 slices of pizza cost at Tony’s Pizza? _____

2. Use the pictograph to answer the questions.

   Number of Raisins Eaten \( = 2 \text{ raisins} \)

<table>
<thead>
<tr>
<th>Name</th>
<th>Raisins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alex</td>
<td>○ ○ ○ ○</td>
</tr>
<tr>
<td>Ava</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>Rani</td>
<td>○ ○</td>
</tr>
</tbody>
</table>

   a) How many raisins did Alex eat? _____

   b) How many more raisins were eaten altogether by Ava and Rani? _____

3. Luc sees a pictograph with the scale \( = 10 \). He thinks that \( = 41 \). Is he correct? Explain.

   ____________________________________________________________

   ____________________________________________________________
4. John recorded the number of wins by baseball teams. 

Draw a pictograph using the scale \( \Box = 4 \) wins.

<table>
<thead>
<tr>
<th>Team</th>
<th>Blue Jays</th>
<th>Orioles</th>
<th>Yankees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Wins</td>
<td>12</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

5. a) Count the number of each shape.

<table>
<thead>
<tr>
<th>Shape</th>
<th>Number of Shapes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangle</td>
<td></td>
</tr>
<tr>
<td>Triangle</td>
<td></td>
</tr>
<tr>
<td>Pentagon</td>
<td></td>
</tr>
</tbody>
</table>

b) Use the table to complete the bar graph.

<table>
<thead>
<tr>
<th>Shapes</th>
<th>Triangle</th>
<th>Rectangle</th>
<th>Pentagon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Shapes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Number of Shapes | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

<table>
<thead>
<tr>
<th>Shape</th>
<th>Number of Shapes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangle</td>
<td></td>
</tr>
<tr>
<td>Rectangle</td>
<td></td>
</tr>
<tr>
<td>Pentagon</td>
<td></td>
</tr>
</tbody>
</table>

c) What is the most common shape? ________________
d) How many more rectangles are there than pentagons? _____
e) How many shapes are there altogether? _____
6. Students in a class were asked to pick their favourite hockey team. Their answers are shown in the bar graph.

![Bar Graph of Favourite Hockey Teams]

Favourite Hockey Team

<table>
<thead>
<tr>
<th>Team</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toronto</td>
<td></td>
</tr>
<tr>
<td>Montreal</td>
<td></td>
</tr>
<tr>
<td>Ottawa</td>
<td></td>
</tr>
<tr>
<td>Edmonton</td>
<td></td>
</tr>
<tr>
<td>Winnipeg</td>
<td></td>
</tr>
<tr>
<td>Calgary</td>
<td></td>
</tr>
<tr>
<td>Vancouver</td>
<td></td>
</tr>
</tbody>
</table>

a) How many students picked Montreal? _____

b) How many more students picked Calgary than Winnipeg? _____

c) How many students answered the question? _____

d) Use the bar graph to create a pictograph. Use the scale ☐ = 2 students.

<table>
<thead>
<tr>
<th>Favourite Team</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toronto</td>
<td></td>
</tr>
<tr>
<td>Montreal</td>
<td></td>
</tr>
<tr>
<td>Ottawa</td>
<td></td>
</tr>
<tr>
<td>Edmonton</td>
<td></td>
</tr>
<tr>
<td>Winnipeg</td>
<td></td>
</tr>
<tr>
<td>Calgary</td>
<td></td>
</tr>
<tr>
<td>Vancouver</td>
<td></td>
</tr>
</tbody>
</table>

BONUS► 45 students were in the class. How many students did not answer the question? _____
Unit 18: Probability and Data Management

Quiz (Lessons 4–9) — ON

1. a) $2
   b) $12

2. a) 7
   b) 13

3. No.
   four whole faces = 40
   half face = 5
   total = 45

4. Blue Jays: 3 baseballs
   Orioles: 2 baseballs
   Yankees: 4 baseballs

5. a) 5
    b) 4
    c) 3
    b) Teacher to check.
    c) rectangle
    d) 2
    e) 12

6. a) 11
   b) 4
   c) 41
   d) Teacher to check.

BONUS
   4
Unit 18: Probability and Data Management

Quiz (Lessons 11–16) — ON

1. The bar graph shows the result of a survey Eric did in his class. Write the survey question that he might have asked.

______________________________
______________________________
______________________________

2. List all the possible outcomes.
   a) Ed and Liz play a game. ___________________________
   b) Bill flips a coin. _____________________________
   c) Kathy rolls a die. _____________________________

3. Find the number of outcomes.
   Number of white outcomes: _____
   Number of grey outcomes: _____
   Number of black outcomes: _____

4. You roll a die.
   a) What are the possible even number outcomes? ________________
   b) What are the possible odd number outcomes? ________________
   c) How many outcomes are possible in total? _____
   d) Is there an even chance of rolling an odd number? ______ Explain.
5. Describe the event as “likely” or “unlikely.”
   a) Spinning green is ____________________.
   b) Spinning red is ____________________.
   c) Spinning grey is ____________________.

6. Write “certain,” “likely,” “unlikely,” or “impossible” to describe the chances of the event.
   a) A box has 4 red marbles and 2 green marbles. You pick out a red marble. ________________
   b) A spinner has 4 regions, each coloured green. You spin green. ________________
   c) A box has 6 blue marbles and 2 red marbles. You pick out a green marble. ________________
   d) A spinner has 6 regions. 5 regions are blue. 1 region is red. You spin red. ________________

7. Jax and Grace roll a die. Jax wins if the number rolled is 2 or 4. Grace wins if the number rolled is 1, 3, 5, or 6. Write “true” or “not true.”
   a) The winning outcomes for Jax are 2 and 4. __________
   b) The winning outcomes for Grace are 1, 3, 5, and 6. __________
   c) Both of the players have the same number of winning outcomes. __________
   d) The game is fair. __________

   **BONUS** Jax and Grace should each have 3 outcomes for it to be a fair game. __________
Unit 18: Probability and Data Management

Quiz (Lessons 11–16) — ON

8. a) If you spin the spinner 20 times, how many times would you predict spinning green? _____

b) If you spin the spinner 20 times, how many times would you predict spinning red? _____

BONUS ► Tom used a spinner to make 30 spins. He recorded the results in a table. Design a spinner that might produce the same results that Tom had.

<table>
<thead>
<tr>
<th>Colour</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>15</td>
</tr>
<tr>
<td>Red</td>
<td>15</td>
</tr>
</tbody>
</table>
1. Which is your favourite vegetable, carrots, celery, cucumber, or other?

2. a) win, loss, tie
   b) heads, tails
   c) 1, 2, 3, 4, 5, 6

3. 3
   2
   1

4. a) 2, 4, 6
   b) 1, 3, 5
   c) 6
   d) Yes. The number of even outcomes is the same as the number of odd outcomes

5. a) likely
   b) unlikely
   c) likely

6. a) likely
   b) certain
   c) impossible
   d) unlikely

7. a) true
   b) true
   c) not true
   d) not true

    **BONUS**
    true

8. a) 5
   b) 15

    **BONUS**
    Teacher to check.
1. Use the pictograph to answer the questions.

Number of Apples Sold  🍎 = 4 apples

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a) How many apples did Anna sell? _____

b) How many more apples did Cam sell than Anna? _____

c) How many apples were sold altogether? _____

2. The bar graph shows the number of wins by hockey teams. Use the graph to answer the questions.

a) How many wins did Montreal have? _____

b) How many fewer wins did Edmonton have than Toronto? _____

c) Each win is worth 2 points. How many points does Ottawa have? _____

**BONUS** How many more points does Montreal have than Toronto? _____
3. Hilda’s class collected cans for a food drive. The table shows how many cans were collected each day. Use the table to make a pictograph.

Use the scale □ = 2 cans, □ = 1 can

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of Cans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>4</td>
</tr>
<tr>
<td>Tuesday</td>
<td>7</td>
</tr>
<tr>
<td>Wednesday</td>
<td>6</td>
</tr>
<tr>
<td>Thursday</td>
<td>8</td>
</tr>
<tr>
<td>Friday</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Jane asked her friends to pick their favourite ice cream flavour. The chart shows the results.

<table>
<thead>
<tr>
<th>Flavour</th>
<th>Vanilla</th>
<th>Chocolate</th>
<th>Banana</th>
<th>Strawberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

Use Jane’s chart to complete the bar graph.
5. Kathy flipped a coin 30 times and made a tally.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Tally</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heads</td>
<td>I I I I</td>
<td>I I I I I I I I I</td>
</tr>
<tr>
<td>Tails</td>
<td>I I I</td>
<td></td>
</tr>
</tbody>
</table>

a) Use the tally to find the count for each outcome.

b) If you flipped a coin 30 times, how many times would you expect to flip heads, half, more than half, or less than half? __________________________

c) Do you think Kathy's game is fair? _____ Explain. ____________________

6. List the possible outcomes when spinning the spinner.

7. Describe the event as “likely,” “unlikely,” “certain,” or “impossible.”

a) Spinning blue is ____________________.

b) Spinning red is ____________________.

c) Spinning blue is ____________________.

d) Spinning red is ____________________.
8. Amir, Tina, and Ed play a game using the spinner. Amir wins if the spinner lands on a number. Tina wins if the spinner lands on a shaded area. Ed wins if the spinner lands on a letter.

   a) How many winning outcomes does Amir have? _____
   b) How many winning outcomes does Tina have? _____
   c) How many winning outcomes does Ed have? _____
   d) Is the game fair? ______ Explain. ____________________________________

9. Greta rolls a die.

   a) How many possible outcomes are there? _____
   b) How many outcomes are multiples of 3? _____
   c) If Greta rolls the die a total of 12 times, how many times can she expect to roll a multiple of 3? ______

BONUS► You spin the spinner 24 times. How many times do you expect to spin a letter? _____ Explain.

   ____________________________________________
   ____________________________________________
Unit 18: Probability and Data Management

Test (Lessons 4–9, 11–16) — ON

1. a) 10  
   b) 12  
   c) 48

2. a) 11  
   b) 2  
   c) 6

   **BONUS**
   
   $22 - 16 = 6$

3. Teacher to check.

4. Teacher to check.

5. a) 27  
   3  
   b) half  
   c) No.  
   If the game was fair, you would expect to flip heads about 15 times.


7. a) unlikely  
   b) certain  
   c) unlikely  
   d) likely

8. a) 2  
   b) 2  
   c) 2  
   d) Yes. Each person has the same number of winning outcomes.

9. a) 6  
   b) 2  
   c) 4

   **BONUS**
   
   12  
   There are 3 winning outcomes out of 6.