Functional Independence
Fall 2011

Mathematics

Item Descriptors

Grade 8

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DIRECTIONS: Read each question. Choose the BEST answer for each question.
**NOTE: For each item listed throughout this booklet, the first statement is a summary of the Michigan Extended Grade Level Content Expectation (EGLCE) and the second statement or problem is the descriptor for the item’s stem or question.**

<table>
<thead>
<tr>
<th></th>
<th><strong>N.MR.07.FI.EG07:</strong> Find the next number in a simple repeating pattern</th>
<th><strong>N.ME.07.FI.EG02:</strong> Recognize representations for whole numbers to 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Determine rule for skip-counting pattern</td>
<td>Given key and blocks, determine value shown</td>
</tr>
<tr>
<td></td>
<td>A  correct</td>
<td>A  one hundred = ten thousand ten = one hundred</td>
</tr>
<tr>
<td></td>
<td>B  added first number in pattern</td>
<td>B  one hundred = one thousand ten = one hundred</td>
</tr>
<tr>
<td></td>
<td>C  ten = one</td>
<td>C  correct</td>
</tr>
</tbody>
</table>

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<tr>
<th></th>
<th><strong>N.MR.07.FI.EG07:</strong> Find the next number in a simple repeating pattern</th>
<th><strong>N.ME.07.FI.EG03:</strong> Express numbers to 100,000 using place value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Determine rule for skip-counting pattern</td>
<td>Determine which number has a given number in ten thousands place</td>
</tr>
<tr>
<td></td>
<td>A  one hundred = ten</td>
<td>A  correct</td>
</tr>
<tr>
<td></td>
<td>B  correct</td>
<td>B  given number in thousands place</td>
</tr>
<tr>
<td></td>
<td>C  one hundred = one thousand</td>
<td>C  given number in tens place</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>N.MR.07.FI.EG06:</strong> Create, describe, and extend simple number patterns</th>
<th><strong>M.UN.07.FI.EG02:</strong> Select appropriate units of measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Find next number in skip-counting pattern given in table</td>
<td>Select unit of measure for area</td>
</tr>
<tr>
<td></td>
<td>A  added 1 to previous number</td>
<td>A  correct</td>
</tr>
<tr>
<td></td>
<td>B  correct</td>
<td>B  unit of measure for volume</td>
</tr>
<tr>
<td></td>
<td>C  sum of all numbers in table</td>
<td>C  unit of measure for length</td>
</tr>
</tbody>
</table>
7 N.ME.07.FI.EG04: Compare and order numbers to 100,000
Identify list of numbers ordered from least to greatest
A greatest to least
B mixed order
C correct

8 M.UN.07.FI.EG01: Select and use standard tools for measurement
Read thermometer in °F
A less than correct temperature
B correct
C temperature above highest shown on thermometer

9 M.UN.07.FI.EG01: Select and use standard tools for measurement
Identify tool used to measure time
A tool used to measure weight
B correct
C tool used to measure length

10 M.UN.07.FI.EG10: Tell time on a radial or digital clock to the nearest half-hour
Subtract time from time shown on analog clock
A correct
B time shown on clock
C added, instead of subtracted

11 M.UN.07.FI.EG09: Convert units of measure
Convert feet to inches, given 1 foot = 12 inches
A added 12 to number of feet
B correct
C twice correct number of inches

12 M.UN.07.FI.EG10: Tell time on a radial or digital clock to the nearest half-hour
Tell time on analog clock
A half hour earlier
B correct
C one hour later
13 G.LO.07.FI.EG02: Find and name locations using simple coordinate systems
Interpret grid to name location
A correct
B incorrect location
C incorrect location

14 G.LO.07.FI.EG03: Read, interpret and use maps and grids
Interpret map to find direction
A incorrect direction
B opposite direction
C correct

15 G.LO.07.FI.EG03: Read, interpret and use maps and grids
Interpret map to locate building
A building in opposite direction
B building in opposite direction
C correct

16 M.UN.07.FI.EG11: Use equivalent calendar units
Translate days into weeks
A too few weeks
B correct
C too many weeks

17 M.PS.07.FI.EG12: Solve one- or two-step word problems
Calculate elapsed time
A correct
B 30 minutes = 1 hour
C 30 minutes = 2.5 hours

18 D.RE.07.FI.EG04: Solve problems using data
Interpret table to find maximum
A minimum
B correct
C neither maximum nor minimum
19 **D.RE.07.FI.EG01:** Read data
   Translate data into bar graph
   - A all 3 bars incorrect
   - B correct
   - C two incorrect bars

20 **D.RE.07.FI.EG04:** Solve problems using data
   Interpret pictograph with a key of 10
   - A correct
   - B incorrect category
   - C did not use scale

21 **N.FL.07.FI.EG09:** Add and subtract one-, two- and three-digit numbers
   Add two 2-digit numbers
   - A twice the sum
   - B correct
   - C 10 less than sum

22 **N.MR.07.FI.EG10:** Solve simple open sentences
   Multiply two 1-digit numbers
   - A added
   - B used one incorrect factor
   - C correct

23 **N.MR.07.FI.EG14:** Solve simple division problems
   Divide in word problem
   - A correct
   - B incorrect quotient and remainder
   - C divisor = quotient

24 **M.PS.07.FI.EG14:** Tell the amount of money in dollars and cents
   Given bills, determine total value
   - A five-dollar bill has value of one dollar
   - B correct
   - C five-dollar bill has value of ten dollars
25 **M.UN.07.FI.EG13:** Recognize equivalent sets of coins and bills

Identify matching set of coins given bill

A  dime has value of 25 cents
B  nickel has value of 25 cents
C  correct

26 **N.ME.07.FI.EG20:** Understand sum of unit fractions

Add three unit fractions

A  unit fraction given, 
\[ \frac{1}{x} + \frac{1}{x} + \frac{1}{x} = \frac{1}{x} \]
B  adds numerator and denominator, 
\[ \frac{1}{x} + \frac{1}{x} + \frac{1}{x} = \frac{3}{3x} \]
C  correct

27 **N.ME.07.FI.EG16:** Place 0 and halves on number line

Identify measurement shown on ruler

A  did not include fractional portion of measurement
B  correct
C  one inch greater

28 **N.ME.07.FI.EG15:** Recognize, name, represent and write unit fractions

Identify fraction represented in shaded figures

A  correct
B  too much shading
C  not enough shading

29 **N.ME.07.FI.EG22:** Use decimal fractions up to 2 decimals

Translate fraction to decimal

A  hundredths = tenths
B  correct
C  hundredths = thousandths

30 **N.MR.07.FI.EG18:** Compare and order fractions

Order three fractions from least to greatest

A  correct
B  mixed order
C  greatest to least
31 **N.MR.07.FI.EG24**: Select appropriate numbers to solve problems

Add two 3-digit numbers in context

A correct
B included extra addend
C included two extra addends

32 **N.MR.07.FI.EG25**: Solve applied problems

Multiply in context

A one of factors
B added
C correct

33 **N.FL.07.FI.EG23**: Apply estimation in solving problems

Estimate subtraction in context

A overestimate
B overestimate
C correct

34 **A.FO.07.FI.EG02**: Represent information using algebra

Translate division word problem into number sentence

A correct
B multiplication sentence
C addition sentence

35 **A.FO.07.FI.EG02**: Represent information using algebra

Translate multiplication word problem into number sentence

A addition sentence
B division sentence
C correct