Functional Independence
Fall 2013

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.

1 **N.MR.07.FI.EG07:** Find the next number in a simple repeating pattern

   Describe rule to find number in decreasing skip-counting pattern

   A decreasing, but under by 1
   B correct
   C decreasing, but over by 1

2 **N.ME.07.FI.EG03:** Express numbers to 100,000 using place value

   Identify number in given place value

   A numeral in greater place value location
   B correct
   C numeral in less place value location

3 **N.ME.07.FI.EG01:** Read, write, and count using whole numbers to 100,000

   Translate word form of number to standard form

   A incorrect in tens place
   B correct
   C incorrect in hundreds place

4 **N.ME.07.FI.EG04:** Compare and order numbers to 100,000

   Identify number greater than given number

   A correct
   B less than given number
   C less than given number
5 N.ME.07.FI.EG05: Round whole numbers

Round number in thousands to nearest hundred

A 200 less than correct number
B rounded number over 50 down, i.e., 100 less than correct number
C correct

6 M.UN.07.FI.EG11: Use equivalent calendar units

Translate years into months

A 1 year = 6 months
B correct
C 1 year = 18 months

7 A.FO.07.FI.EG01: Solve applied problems involving rates

Calculate total distance given rate and time

A correct
B under by 20 miles
C rate + time

8 N.ME.07.FI.EG15: Recognize, name, represent, and write commonly used unit fractions

Identify shaded figure

A correct
B too much shading
C not enough shading

9 M.UN.07.FI.EG08: Measure perimeter

Calculate perimeter of rectangle given lengths of four sides

A correct
B 4 times the width
C 4 times the length

10 M.UN.07.FI.EG07: Understand circumference

Identify characteristic of circle

A incorrect characteristic of circle
B incorrect characteristic of circle
C correct
11 N.ME.07.FI.EG16: Place 0 and halves on a number line

Identify measurement shown on ruler

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

12 G.LO.07.FI.EG03: Read, interpret, and use maps and grids with legends

Follow directions to find location

A incorrect location
B incorrect location
C correct

13 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

14 D.RE.07.FI.EG01: Read data from charts, tables, graphs, tallies, and pictographs

Identify minimum on bar graph

A maximum
B correct
C neither minimum nor maximum

15 M.UN.07.FI.EG09: Convert units of measure

Convert feet to inches given 1 foot = 12 inches

A subtracted feet from inches
B added feet to inches
C correct

16 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 hour later
17 **N.MR.07.FI.EG06:** Create, describe, and extend simple number patterns

Find next number in skip-counting pattern given in table

A  added 1 to previous number  
B  correct  
C  sum of all numbers in table  

18 **D.RE.07.FI.EG04:** Solve problems using data in tables, graphs, tallies, and pictographs

Calculate total from table

A  mode  
B  10 fewer than total  
C  correct  

19 **M.UN.07.FI.EG03:** Measure and compare integer temperatures

Identify warmest temperature

A  coolest  
B  neither warmest nor coolest  
C  correct  

20 **D.RE.07.FI.EG03:** Describe the shape of data using informal language

Describe data in line graph

A  correct  
B  opposite trend  
C  incorrect trend  

21 **G.LO.07.FI.EG03:** Read, interpret, and use maps and grids with legends

Interpret map

A  correct  
B  incorrect direction  
C  opposite direction  

22 **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  

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**MI-Access Functional Independence**
23 A.FO.07.FI.EG02: Represent information using algebra

Translate multiplication word problem into number sentence

A addition sentence  
B division sentence  
C correct

24 N.MR.07.FI.EG24: Select appropriate numbers to solve problems

Add in context

A incorrect total  
B incorrect total  
C corrected

25 M.PS.07.FI.EG15: Add and subtract money in dollars and cents

Subtract money in decimal form in context

A correct  
B subtracted smaller values from larger values with dollars  
C added

26 M.UN.07.FI.EG13: Recognize equivalent sets of coins and bills

Recognize equivalent set of coins

A over by 1 dime  
B correct  
C nickel instead of quarter

27 N.MR.07.FI.EG10: Solve simple open sentences

Multiply two 1-digit numbers

A added  
B used one incorrect factor  
C correct

28 N.MR.07.FI.EG21: Multiply fractions by whole numbers

Identify equivalent expression to multiplying a whole number by a unit fraction

A correct  
B \( a \times \frac{1}{b} = a + a + \ldots + a \) (b addends)  
C \( a \times \frac{1}{b} = a + \frac{1}{b} + \ldots + a + \frac{1}{b} \) (b addends)
29 N.ME.07.FI.EG20: Understand sum of unit fractions

Add three unit fractions

A  \( \frac{1}{x} + \frac{1}{x} + \frac{1}{x} = \frac{1}{x} \)
B  \( \frac{1}{x} + \frac{1}{x} + \frac{1}{x} = \frac{3}{(3x)} \)
C  correct

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

Translate fraction in context to decimals

A  one-tenth of correct decimal
B  correct
C  ten times correct decimal

31 N.FL.07.FI.EG13: Calculate simple products

Multiply two 2-digit numbers

A  added
B  used one incorrect factor
C  correct

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

Multiply two 2-digit numbers

A  under by 20
B  correct
C  over by 5

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

Estimate subtraction in context

A  overestimate
B  overestimate
C  correct

34 N.FL.07.FI.EG13: Calculate simple products

Multiply or use repeated addition in word problem

A  used incorrect factor (or did not include one addend)
B  under by 5
C  correct
35 M.PS.07.FI.EG12: Solve one- or two-step word problems

Determine time elapsed in context

A  correct
B  over by 1 hour
C  over by 2 hours