Functional Independence
Fall 2012
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.EG06**: Create, describe, and extend simple number patterns

   Interpret constant pattern in table

   A  correct
   B  rounded up to next dollar
   C  over by $1

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

   Determine rule for skip-counting pattern

   A  one hundred = ten
   B  correct
   C  one hundred = one thousand

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.EG02**: Recognize equivalent representations for whole numbers to 100,000

   Given key and blocks, determine value shown

   A  one hundred = ten thousand, ten = one hundred
   B  one hundred = one thousand, ten = one hundred
   C  correct
5 **N.ME.07.FI.EG03:** Express numbers to 100,000 using place value

Determine number with given place value

A under by factor of 10
B over by factor of 10
C correct

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

Order three 3-digit numbers from least to greatest

A correct
B mixed order
C mixed order

7 **M.UN.07.FI.EG02:** Select appropriate units of measure

Select unit of measure for area

A correct
B unit of measure for volume
C unit of measure for length

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.EG04:** Measure lengths to the nearest quarter-inch

Measure length to nearest quarter inch

A over by 1/2 inch
B correct
C under by 1/4 inch

10 **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
11 **G.LO.07.FI.EG02:** Find and name locations using simple coordinate systems

Locate point on 1st coordinate grid

A correct
B \((x, y) = (y, x)\)
C \((x, y) = (y, y)\)

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

Interpret map to find direction

A incorrect direction
B opposite direction
C correct

14 **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

15 **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

16 **M.UN.07.FI.EG11:** Use equivalent calendar units

Convert hours to days

A incorrect number of hours
B incorrect number of hours
C correct
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.EG01**: Read data from charts, tables, graphs, tallies, and pictographs

Translate data into bar graph

A  all 3 bars incorrect
B  correct
C  two incorrect bars

19 **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

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

Interpret graph

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

Solve subtraction sentence for minuend

A  subtracted subtrahend from difference
B  under by 5
C  correct
23 **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

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

Recognize equivalent set of coins

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

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

Identify shape at given location on number line

A correct
B under by 2
C over by 1

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

Identify unit fractions given sum

A \( \frac{a}{b} = \frac{a}{b} + \frac{a}{b} + \frac{a}{b} \)
B \( \frac{a}{b} = \frac{1}{b} + \frac{a}{b} \)
C correct
28 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

29 N.MR.07.FI.EG18: Compare and order fractions within the same fraction family
Order three fractions from least to greatest
A correct
B mixed order
C greatest to least

30 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)

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 two 2-digit numbers
A under by 5
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 A.FO.07.FI.EG02: Represent information using algebra

Translate multiplication word problem into number sentence

A  addition sentence
B  division sentence
C  correct

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

Translate division word problem into number sentence

A  correct
B  multiplication sentence
C  addition sentence