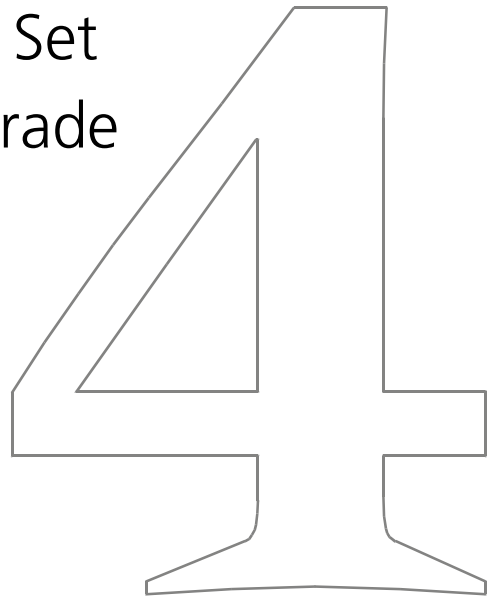
TIMSS 2003

MATHEMATICS ITEMS

Released Set
Fourth Grade



TIMSS & PIRLS INTERNATIONAL STUDY CENTER
LYNCH SCHOOL OF EDUCATION, BOSTON COLLEGE

International Association for the
Evaluation of Educational Achievement

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Unique ID	MS Block	MS Block Seq	Item Type	Key	Trend	Content Domain	Main Topic	Cognitive Domain
M011009	M01	01	MC	B	Yes	Data	Data representation	Solving Routine Problems
M011010	M01	02	MC	D	Yes	Measurement	Tools, techniques, and formulas	Using Concepts
M012044	M01	03	MC	E	Yes	Number	Fractions and decimals	Using Concepts
M011011	M01	04	MC	A	Yes	Number	Whole numbers	Solving Routine Problems
M011017	M01	05	MC	C	Yes	Measurement	Tools, techniques, and formulas	Solving Routine Problems
M011018	M01	06	MC	B	Yes	Number	Whole numbers	Using Concepts
M011019	M01	07	MC	D	Yes	Number	Whole numbers	Knowing Facts and Procedures
M011020	M01	08	MC	C	Yes	Number	Fractions and decimals	Knowing Facts and Procedures
M012065	M01	09	MC	C	Yes	Measurement	Tools, techniques, and formulas	Reasoning
M011023	M01	10	MC	C	Yes	Measurement	Attributes and units	Knowing Facts and Procedures
M011024	M01	11	MC	B	Yes	Number	Whole numbers	Knowing Facts and Procedures
M012048	M01	12	MC	B	Yes	Algebra	Equations and formulas	Solving Routine Problems
M011012	M02	01	MC	A	Yes	Data	Data representation	Solving Routine Problems
M011013	M02	02	MC	D	Yes	Measurement	Tools, techniques, and formulas	Knowing Facts and Procedures
M011014	M02	03	MC	C	Yes	Geometry	Congruence and similarity	Knowing Facts and Procedures
M011015	M02	04	MC	E	Yes	Number	Fractions and decimals	Knowing Facts and Procedures
M011016	M02	05	MC	C	Yes	Number	Fractions and decimals	Using Concepts
M012078	M02	06	MC	B	Yes	Data	Data interpretation	Solving Routine Problems
M012119	M02	07	MC	D	Yes	Number	Fractions and decimals	Solving Routine Problems
M011021	M02	08	MC	B	Yes	Number	Whole numbers	Knowing Facts and Procedures
M012023	M02	09	MC	C	Yes	Measurement	Attributes and units	Knowing Facts and Procedures
M011022	M02	10	MC	A	Yes	Geometry	Two- and three-dimensional shapes	Knowing Facts and Procedures
M011003	M02	11	MC	C	Yes	Number	Whole numbers	Solving Routine Problems
M011004	M02	12	MC	B	Yes	Number	Whole numbers	Using Concepts
M011005	M02	13	MC	C	Yes	Measurement	Attributes and units	Reasoning
M012126	M03	01	MC	B	Yes	Data	Data interpretation	Reasoning
M011006	M03	02	MC	D	Yes	Geometry	Two- and three-dimensional shapes	Knowing Facts and Procedures
M012117	M03	03	MC	C	Yes	Number	Whole numbers	Solving Routine Problems
M011007	M03	04	MC	B	Yes	Number	Whole numbers	Using Concepts
M011008	M03	05	MC	B	Yes	Number	Fractions and decimals	Knowing Facts and Procedures
M011001	M03	06	MC	B	Yes	Number	Fractions and decimals	Using Concepts
M011002	M03	07	MC	D	Yes	Number	Whole numbers	Solving Routine Problems
M012069	M03	08	MC	A	Yes	Geometry	Locations and spatial relationships	Reasoning
M011025	M03	09	MC	D	Yes	Measurement	Tools, techniques, and formulas	Solving Routine Problems
M011026	M03	10	MC	C	Yes	Number	Whole numbers	Using Concepts
M011027	M03	11	MC	A	Yes	Algebra	Patterns	Reasoning
M011028	M03	12	MC	B	Yes	Number	Whole numbers	Knowing Facts and Procedures
M031305	M04	01	CR	X	No	Number	Whole numbers	Knowing Facts and Procedures
M031310	M04	02	MC	D	No	Number	Whole numbers	Solving Routine Problems
M031065	M04	03	CR	X	No	Number	Fractions and decimals	Solving Routine Problems
M031051	M04	04	MC	C	No	Algebra	Patterns	Solving Routine Problems
M031220	M04	05	MC	D	No	Algebra	Equations and formulas	Using Concepts
M031322	M04	06	CR	X	No	Measurement	Tools, techniques, and formulas	Knowing Facts and Procedures
M031298	M04	07	CR	X	No	Measurement	Tools, techniques, and formulas	Reasoning
M031327	M04	08	CR	X	No	Geometry	Lines and angles	Knowing Facts and Procedures
M031269	M04	09	CR	X	No	Geometry	Two- and three-dimensional shapes	Knowing Facts and Procedures
M031264	M04	10	CR	X	No	Data	Data representation	Solving Routine Problems
M031265	M04	11	CR	X	No	Data	Data representation	Solving Routine Problems
M031162	M09	01	CR	X	No	Number	Whole numbers	Using Concepts
M031341	M09	02	MC	A	No	Number	Whole numbers	Reasoning
M031216	M09	03	MC	B	No	Number	Fractions and decimals	Solving Routine Problems

Unique ID	MS Block	MS Block Seq	Item Type	Key	Trend	Content Domain	Main Topic	Cognitive Domain
M031249	M09	04	CR	X	No	Algebra	Equations and formulas	Using Concepts
M031347A	M09	05	CR	X	No	Geometry	Two- and three-dimensional shapes	Knowing Facts and Procedures
M031347B	M09	05	CR	X	No	Geometry	Two- and three-dimensional shapes	Knowing Facts and Procedures
M031347C	M09	05	CR	X	No	Number	Fractions and decimals	Knowing Facts and Procedures
M031348A	M09	06	CR	X	No	Number	Fractions and decimals	Knowing Facts and Procedures
M031348B	M09	06	CR	X	No	Number	Fractions and decimals	Reasoning
M031190	M09	07	MC	B	No	Algebra	Relationships	Knowing Facts and Procedures
M031306	M10	01	CR	X	No	Number	Whole numbers	Knowing Facts and Procedures
M031108	M10	02	MC	D	No	Number	Ratio, proportions, and percent	Solving Routine Problems
M031011	M10	03	CR	X	No	Number	Whole numbers	Solving Routine Problems
M031304	M10	04	CR	X	No	Number	Whole numbers	Solving Routine Problems
M031023	M10	05	MC	C	No	Algebra	Patterns	Solving Routine Problems
M031008	M10	06	MC	B	No	Measurement	Attributes and units	Solving Routine Problems
M031338	M10	07	MC	A	No	Measurement	Attributes and units	Knowing Facts and Procedures
M031272A	M10	08	CR	X	No	Geometry	Two- and three-dimensional shapes	Solving Routine Problems
M031272B	M10	08	CR	X	No	Geometry	Two- and three-dimensional shapes	Solving Routine Problems
M031272C	M10	08	CR	X	No	Geometry	Two- and three-dimensional shapes	Solving Routine Problems
M031267	M10	09	CR	X	No	Geometry	Congruence and similarity	Knowing Facts and Procedures
M031315	M10	10	MC	C	No	Data	Data representation	Using Concepts
M031344A	M13	01	CR	X	No	Number	Whole numbers	Using Concepts
M031344B	M13	01	CR	X	No	Number	Whole numbers	Using Concepts
M031344C	M13	01	CR	X	No	Number	Whole numbers	Using Concepts
M031345A	M13	02	CR	X	No	Number	Whole numbers	Solving Routine Problems
M031345B	M13	02	CR	X	No	Number	Whole numbers	Solving Routine Problems
M031345C	M13	02	CR	X	No	Number	Whole numbers	Solving Routine Problems
M031130	M13	03	CR	X	No	Number	Whole numbers	Reasoning
M031097	M13	04	MC	C	No	Measurement	Tools, techniques, and formulas	Solving Routine Problems
M031178	M13	05	MC	D	No	Measurement	Tools, techniques, and formulas	Solving Routine Problems
M031333	M13	06	MC	A	No	Data	Data interpretation	Solving Routine Problems

TIMSS 2003

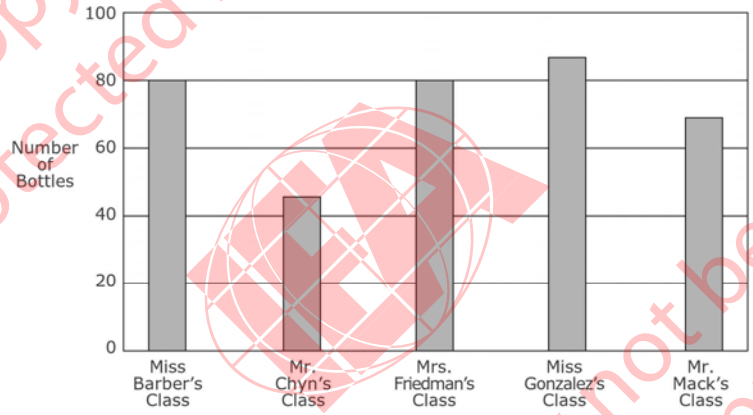
Content Domain
Data

Main Topic
Data representation

Cognitive Domain
Solving Routine Problems

Key
B

Central School had a bottle collection. Children in each class brought empty bottles to school. The principal made a bar graph of the number of bottles from five classes.



Which class collected 45 bottles?

Ⓐ Miss Barber's class
Ⓑ Mr. Chyn's class
Ⓒ Mrs. Friedman's class
Ⓓ Mr. Mack's class

M011009

TIMSS 2003

M011010

Jasmine made a stack of cubes of the same size. The stack had 5 layers and each layer had 10 cubes. What is the volume of the stack?

(A) 5 cubes
(B) 15 cubes
(C) 30 cubes
(D) 50 cubes

Content Domain
Measurement

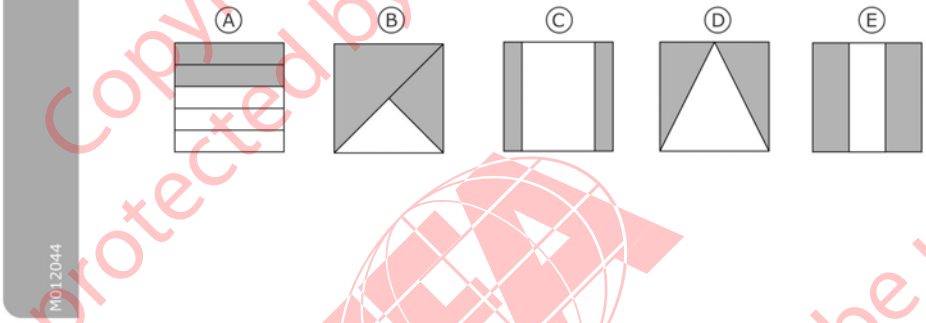
Main Topic
Tools, techniques, and formulas

Cognitive Domain
Using Concepts

Key
D

TIMSS 2003

Which shows $\frac{2}{3}$ of the square shaded?



M012044

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Using Concepts

Key
E

TIMSS 2003

It takes Chris 4 minutes to wash a window. He wants to know how many minutes it will take him to wash 8 windows at this rate. He should

(A) multiply 4×8
(B) divide 8 by 4
(C) subtract 4 from 8
(D) add 8 and 4

M011011

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

Key
A

TIMSS 2003

Content Domain
Measurement

Main Topic
Tools, techniques, and formulas

Cognitive Domain
Solving Routine Problems

Key
C

Here is a calendar for December.

DECEMBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Mary's birthday is on Thursday, December 2. She is going on a trip exactly 3 weeks later. On what date will she go on the trip?

Ⓐ December 16th
Ⓑ December 21st
Ⓒ December 23rd
Ⓓ December 30th

M011017

TIMSS 2003

Which digit is in the hundreds place in 2345 ?

(A) 2
(B) 3
(C) 4
(D) 5

M011018

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
B

TIMSS 2003

Which number would be rounded to 600 when rounded to the nearest hundred?

(A) 62
(B) 160
(C) 546
(D) 586
(E) 660

M011019

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Knowing Facts and Procedures

Key
D

TIMSS 2003

Which of these means $\frac{7}{10}$?

(A) 70
(B) 7
(C) 0.7
(D) 0.07

M011020

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Knowing Facts and Procedures

Key
C

TIMSS 2003

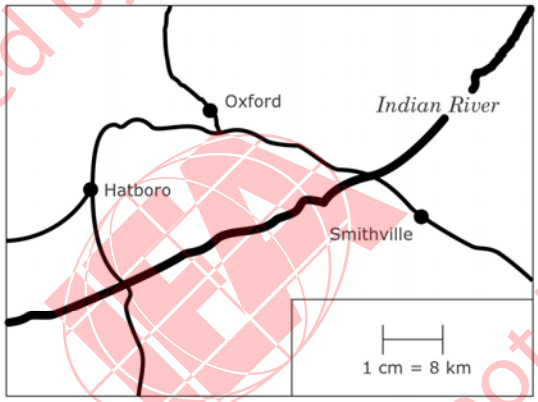
Content Domain
Measurement

Main Topic
Tools, techniques, and formulas

Cognitive Domain
Reasoning

Key
C

One centimeter on the map represents 8 kilometers on the land.



About how far apart are Oxford and Smithville on the land?

Ⓐ 4 km
Ⓑ 16 km
Ⓒ 35 km
Ⓓ 50 km

M012065

TIMSS 2003

Which of these could be the weight (mass) of an adult?

(A) 1 kg
(B) 6 kg
(C) 60 kg
(D) 600 kg

M011023

Content Domain
Measurement

Main Topic
Attributes and units

Cognitive Domain
Knowing Facts and Procedures

Key
C

TIMSS 2003

Which of these is a name for 9740 ?

(A) Nine thousand seventy-four
(B) Nine thousand seven hundred forty
(C) Nine thousand seventy-four hundred
(D) Nine hundred seventy-four thousand

M011024

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Knowing Facts and Procedures

Key
B

TIMSS 2003

M012048

☐ represents the number of magazines that Lina reads each week.
Which of these represents the total number of magazines that Lina reads in 6 weeks?

Ⓐ $6 + \square$

Ⓑ $6 \times \square$

Ⓒ $\square + 6$

Ⓓ $(\square + \square) \times 6$

Content Domain
Algebra

Main Topic
Equations and formulas

Cognitive Domain
Solving Routine Problems

Key
B

TIMSS 2003

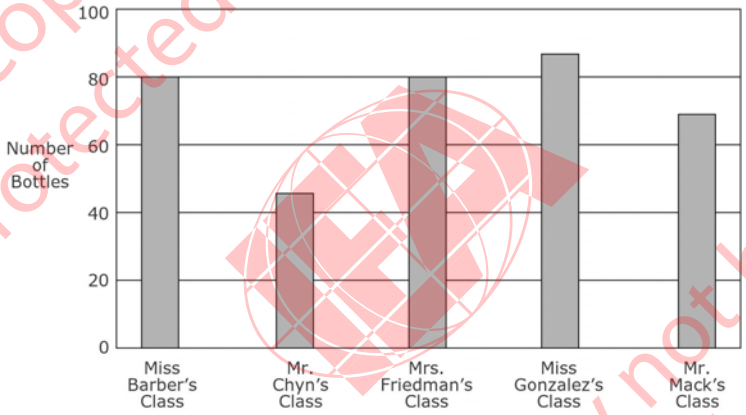
Content Domain
Data

Main Topic
Data representation

Cognitive Domain
Solving Routine Problems

Key
A

Central School had a bottle collection. Children in each class brought empty bottles to school. The principal made a bar graph of the number of bottles from five classes.



Which two classes collected exactly 80 bottles?

(A) Miss Barber's and Mrs. Friedman's classes
(B) Miss Barber's and Mr. Mack's classes
(C) Mrs. Friedman's and Miss Gonzalez's classes
(D) Miss Gonzalez's and Mr. Mack's classes

M011012

TIMSS 2003

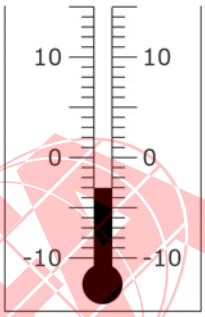
Content Domain
Measurement

Main Topic
Tools, techniques, and formulas

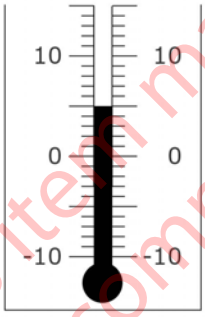
Cognitive Domain
Knowing Facts and Procedures

Key
D

When Tracy left for school, the temperature was minus 3 degrees.



At recess, the temperature was 5 degrees.



How many degrees did the temperature rise?

Ⓐ 2 degrees
Ⓑ 3 degrees
Ⓒ 5 degrees
Ⓓ 8 degrees

M011013

TIMSS 2003

Figures that are the same size and shape are called congruent figures.

Which two figures are congruent?

(A) 1 and 2
(B) 1 and 3
(C) 1 and 4
(D) 3 and 4

M011014

Content Domain
Geometry

Main Topic
Congruence and similarity

Cognitive Domain
Knowing Facts and Procedures

Key
C

TIMSS 2003

Subtract: $\begin{array}{r} 4.03 \\ -1.15 \\ \hline \end{array}$

(A) 5.18
(B) 4.45
(C) 3.12
(D) 2.98
(E) 2.88

M011015

Content Domain
Number

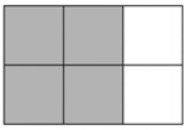
Main Topic
Fractions and decimals

Cognitive Domain
Knowing Facts and Procedures

Key
E

TIMSS 2003

In this diagram, 2 out of every 3 squares are shaded.

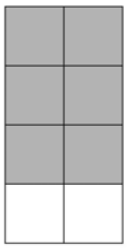


Which diagram has 3 out of every 4 squares shaded?

Ⓐ

Ⓑ

Ⓒ



Ⓓ

M011016

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Using Concepts

Key
C

TIMSS 2003

Content Domain
Data

Main Topic
Data interpretation

Cognitive Domain
Solving Routine Problems

Key
B

This chart shows temperature readings made at different times on four days.

TEMPERATURES					
	6 a.m.	9 a.m.	Noon	3 p.m.	8 p.m.
Monday	15°	17°	20°	21°	19°
Tuesday	15°	15°	15°	10°	9°
Wednesday	8°	10°	14°	13°	15°
Thursday	8°	11°	14°	17°	20°

When was the highest temperature recorded?

Ⓐ Noon on Monday
Ⓑ 3 p.m. on Monday
Ⓒ Noon on Tuesday
Ⓓ 3 p.m. on Wednesday

M012078

TIMSS 2003

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Solving Routine Problems

Key
D

Janis, Maija, and their mother were eating a cake. Janis ate $\frac{1}{2}$ of the cake. Maija ate $\frac{1}{4}$ of the cake. Their mother ate $\frac{1}{4}$ of the cake.
How much of the cake is left?

Ⓐ $\frac{3}{4}$

Ⓑ $\frac{1}{2}$

Ⓒ $\frac{1}{4}$

Ⓓ None

M012119

TIMSS 2003

What number equals 3 ones + 5 tens + 4 hundreds + 60 thousands?

(A) 6 453
(B) 60 453
(C) 64 530
(D) 354 060
(E) 604 530

M011021

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Knowing Facts and Procedures

Key
B

TIMSS 2003

What units would be best to use to measure the weight (mass) of an egg?

(A) centimeters
(B) milliliters
(C) grams
(D) kilograms

M012023

Content Domain
Measurement

Main Topic
Attributes and units

Cognitive Domain
Knowing Facts and Procedures

Key
C

TIMSS 2003

M011022

All of the pupils in a class cut out paper shapes. The teacher picked one out and said, "This shape is a triangle." Which of these statements MUST be correct?

(A) The shape has three sides.

(B) The shape has a right angle.

(C) The shape has equal sides.

(D) The shape has equal angles.

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Knowing Facts and Procedures

Key
A

TIMSS 2003

There are 9 boxes of pencils. Each box has 125 pencils. What is the total number of pencils?

(A) 1025
(B) 1100
(C) 1125
(D) 1220
(E) 1225

M011003

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

Key
C

TIMSS 2003

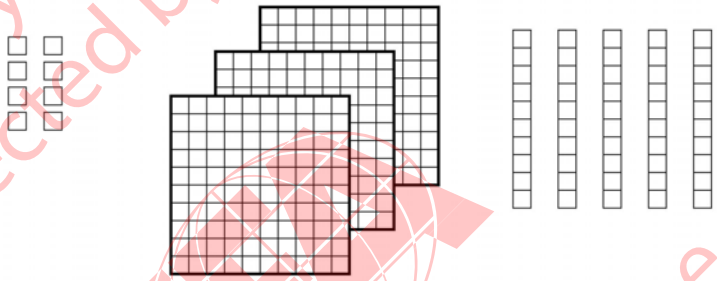
Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
B

Each small square (□) is equal to 1. There are 10 small squares in each strip. There are 100 small squares in each large square.



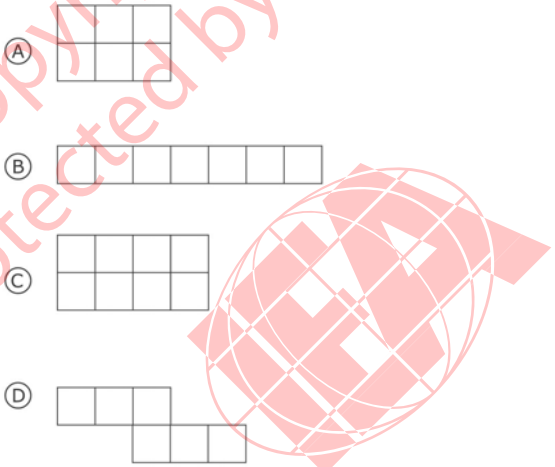
What number is shown?

Ⓐ 16
Ⓑ 358
Ⓒ 538
Ⓓ 835

M011004

TIMSS 2003

Which of these figures has the largest area?



M011005

Content Domain
Measurement

Main Topic
Attributes and units

Cognitive Domain
Reasoning

Key
C

TIMSS 2003

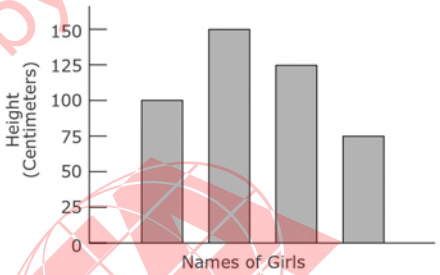
Content Domain
Data

Main Topic
Data interpretation

Cognitive Domain
Reasoning

Key
B

The graph shows the heights of four girls.



The names are missing from the graph. Debbie is the tallest. Amy is the shortest. Dawn is taller than Sarah. How tall is Sarah?

Ⓐ 75 cm
Ⓑ 100 cm
Ⓒ 125 cm
Ⓓ 150 cm

M012126

TIMSS 2003

Here is a cone. Part of its surface is flat and part of its surface is curved.

Which of these solids also has both a flat surface and a curved surface?

M011006

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Knowing Facts and Procedures

Key
D

TIMSS 2003

Mark's garden has 84 rows of cabbages. There are 57 cabbages in each row. Which of these gives the BEST way to estimate how many cabbages there are altogether?

(A) $100 \times 50 = 5000$

(B) $90 \times 60 = 5400$

(C) $80 \times 60 = 4800$

(D) $80 \times 50 = 4000$

M012117

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

Key
C

TIMSS 2003

M011007

Which of these has the same value as 342 ?

(A) 3000 + 400 + 2
(B) 300 + 40 + 2
(C) 30 + 4 + 2
(D) 3 + 4 + 2

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
B

TIMSS 2003

What is the sum of 2.5 and 3.8 ?

(A) 5.3
(B) 6.3
(C) 6.4
(D) 9.5

M011008

Content Domain
Number

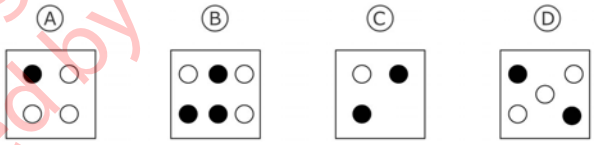
Main Topic
Fractions and decimals

Cognitive Domain
Knowing Facts and Procedures

Key
B

TIMSS 2003

In which figure are one-half of the dots black?



M011001

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Using Concepts

Key
B

TIMSS 2003

In Toshi's class there are twice as many girls as boys. There are 8 boys in the class. What is the total number of boys and girls in the class?

(A) 12
(B) 16
(C) 20
(D) 24

M011002

Content Domain
Number

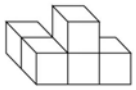
Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

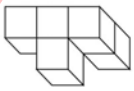
Key
D

TIMSS 2003

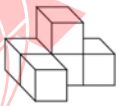
This figure will be turned to a different position.

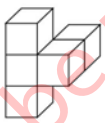


Which of these could be the figure after it is turned?

A 

B 

C 

D 

M012069

Content Domain
Geometry

Main Topic
Locations and spatial relationships

Cognitive Domain
Reasoning

Key
A

TIMSS 2003

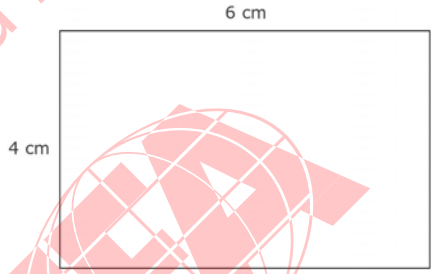
Content Domain
Measurement

Main Topic
Tools, techniques, and formulas

Cognitive Domain
Solving Routine Problems

Key
D

Here is a rectangle with length 6 centimeters and width 4 centimeters. The distance right around its shape is called its perimeter.



Which of these gives the perimeter of the rectangle in centimeters?

Ⓐ $6 + 4$
Ⓑ 6×4
Ⓒ $6 \times 4 \times 2$
Ⓓ $6 + 4 + 6 + 4$

M011025

TIMSS 2003

Which number sentence is true?

(A) $968 < 698$

(B) $968 < 689$

(C) $968 > 689$

(D) $968 = 689$

M011026

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
C

TIMSS 2003

Here is a number pattern.

100, 1, 99, 2, 98, ☐, ☐, ☐

What three numbers should go in the boxes?

(A) 3, 97, 4
(B) 4, 97, 5
(C) 97, 3, 96
(D) 97, 4, 96

M011027

Content Domain
Algebra

Main Topic
Patterns

Cognitive Domain
Reasoning

Key
A

TIMSS 2003

Which number is equal to eight tens plus nine tens ?

(A) 17
(B) 170
(C) 1 700
(D) 17 000

M011028

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Knowing Facts and Procedures

Key
B

$15 \times 9 =$

Answer: _____

M031305

TIMSS 2003

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Knowing Facts and Procedures

Key
See scoring guide

Code	Response	Item: M031305
	Correct Response	
10	135	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

A piece of rope 204 cm long is cut into 4 equal pieces. Which of these gives the length of each piece in centimeters?

(A) $204 + 4$
(B) 204×4
(C) $204 - 4$
(D) $204 \div 4$

M031310

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

Key
D

TIMSS 2003

There are 600 balls in a box, and $\frac{1}{3}$ of the balls are red.

How many red balls are in the box?

Answer: _____ red balls

M031065

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

Code	Response	Item: M031065
	Correct Response	
10	200	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Algebra

Main Topic
Patterns

Cognitive Domain
Solving Routine Problems

Key
C

M031051

The daily start times for showing a movie are listed below:

Show	Start Time
1st	2:00 p.m.
2nd	3:30 p.m.
3rd	5:00 p.m.
4th	?

If this pattern continues, what is the start time for the 4th show?

Ⓐ 5:30 p.m.
Ⓑ 6:00 p.m.
Ⓒ 6:30 p.m.
Ⓓ 7:00 p.m.

TIMSS 2003

Ali had 50 apples. He sold some and then had 20 left.
Which of these is a number sentence that shows this?

(A) □ − 20 = 50
(B) 20 − □ = 50
(C) □ − 50 = 20
(D) 50 − □ = 20

M031220

Content Domain
Algebra

Main Topic
Equations and formulas

Cognitive Domain
Using Concepts

Key
D

TIMSS 2003

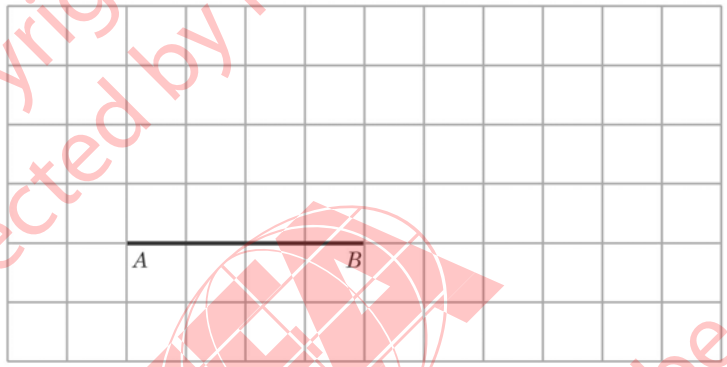
Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Knowing Facts and Procedures

Key
See scoring guide

M031322



Draw a triangle in the grid so that the line *AB* is the base of the triangle and the two new sides are the same length as each other.

Code	Response	Item: M031322
	Correct Response	
10	Triangle with two new sides equal (i.e. meeting on or within 2mm of the gridline that is the perpendicular bisector of AB)	
	Incorrect Response	
70	Triangle with two new sides unequal	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

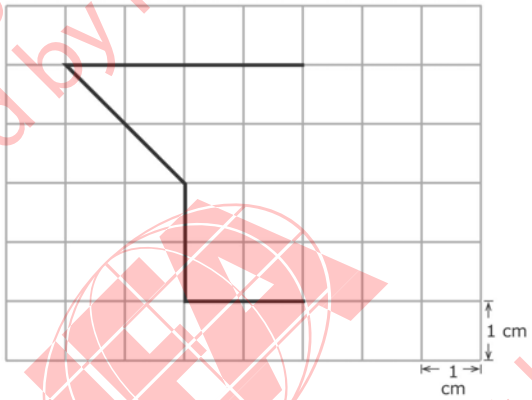
Content Domain
Measurement

Main Topic
Tools, techniques, and formulas

Cognitive Domain
Reasoning

Key
See scoring guide

M031298

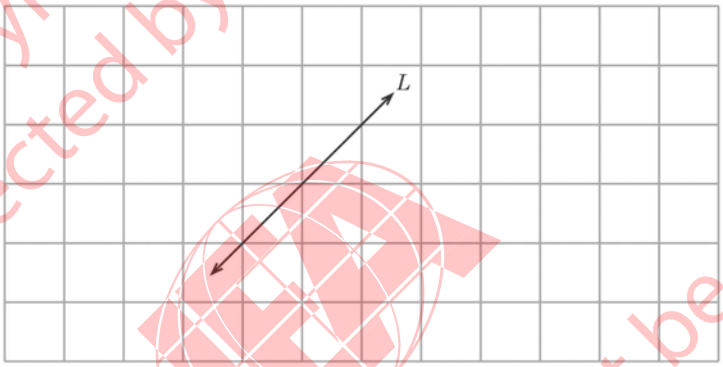


The squares in the grid above have areas of 1 square centimeter. Draw lines to complete the figure so that it has an area of 13 square centimeters.

Code	Response	Item: M031298
	Correct Response	
10	Lines drawn to give area of 13 square cm	
	Incorrect Response	
70	Error due to counting half squares as full square centimeters	
71	One line drawn to close given figure	
72	Symmetrical figure drawn	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

On the grid, draw a line parallel to line L.



M031327

Content Domain
Geometry

Main Topic
Lines and angles

Cognitive Domain
Knowing Facts and Procedures

Key
See scoring guide

Code	Response	Item: M031327
	Correct Response	
10	Line (or lines) parallel to L	
	Incorrect Response	
70	Line perpendicular to L shown	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Knowing Facts and Procedures

Key
See scoring guide

In the picture there are a number of geometric shapes, like circles, squares, rectangles, and triangles. For example, the sun looks like a circle.

Draw lines to three other different objects in the picture and write what shapes they look like.

M031269

Note: **Shapes added to house are not scored as correct even if labeled correctly.**

Code	Response	Item: M031269
	Correct Response	
20	Any three of square, rectangle, triangle, trapezoid, diamond/rhombus, kite correctly identified	
21	Any two of the above plus circle	
	Partial Response	
10	Any two of the above correctly identified	
11	Any one of the above plus circle	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

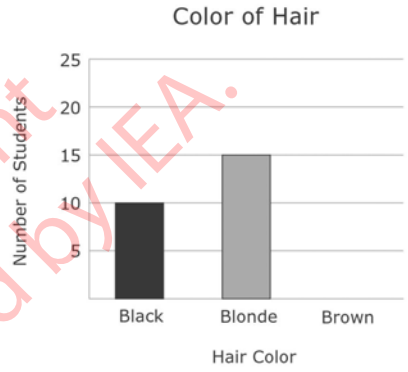
Content Domain
Data

Main Topic
Data representation

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

In a class of 30 students, 10 have black hair, 15 have blonde hair, and the rest have brown hair. Complete the graph below to show the number of students with brown hair.



M031264

Code	Response	Item: M031264
	Correct Response	
10	Bar for brown hair drawn to the horizontal line at 5	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

M031265

A store owner decided to check how many pens, pencils, erasers, and rulers were sold on the day school opened. He made the tally chart below.

Pens	Pencils	Erasers	Rulers
𝍸 𝍸 𝍸 𝍸 ||	𝍸 𝍸 𝍸 𝍸 𝍸 |	𝍸 𝍸 ||	𝍸 𝍸 𝍸 𝍸 ||||

How many more pencils than rulers were sold?

Answer: _____

Content Domain
Data

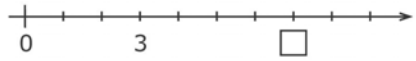
Main Topic
Data representation

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

Code	Response	Item: M031265
	Correct Response	
10	2 more pencils than rulers	
	Incorrect Response	
70	1 more pencil than rulers	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003



On the number line above, what number goes in the box?

Number in ☐ = _____

M031162

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
See scoring guide

Code	Response	Item: M031162
	Correct Response	
10	7	
	Incorrect Response	
70	4	
71	6	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Reasoning

Key
A

M031341

Juanita wanted to use her calculator to add 1379 and 243. She entered 1279 + 243 by mistake. Which of these could she do to correct the mistake?

Ⓐ Add 100
Ⓑ Add 1
Ⓒ Subtract 1
Ⓓ Subtract 100

TIMSS 2003

A cake was cut into 8 pieces of equal size. John ate 3 pieces of the cake. What fraction of the cake did John eat?

Ⓐ $\frac{1}{8}$

Ⓑ $\frac{3}{8}$

Ⓒ $\frac{3}{5}$

Ⓓ $\frac{8}{3}$

M031216

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Solving Routine Problems

Key
B

TIMSS 2003

$37 \times \blacksquare = 703$.
What is the value of $37 \times \blacksquare + 6$?

Answer: _____

M031249

Content Domain
Algebra

Main Topic
Equations and formulas

Cognitive Domain
Using Concepts

Key
See scoring guide

Code	Response	Item: M031249
	Correct Response	
10	709 or 703 + 6	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

Geometry Tiles
Instructions: The next two questions are about geometry tiles.

For this item, you have been given a piece of cardboard with 10 tiles like the ones shown below. Take the piece of cardboard and punch out the 10 tiles.

If you do not have the piece of cardboard raise your hand.

MP31347

Questions for Geometry Tiles begin on the next page.

TIMSS 2003

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Knowing Facts and Procedures

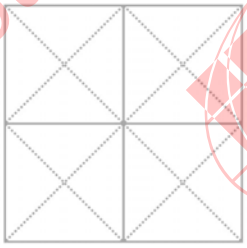
Key
See scoring guide

A. Use 2 of the triangle tiles to make one large black triangle. Then show what you did with your tiles by shading in your triangle below.

Shade in Your Triangle Here

B. Use all 4 triangle tiles to make a black square. Then show what you did with your tiles by shading in your square below.

Shade in Your Square Here



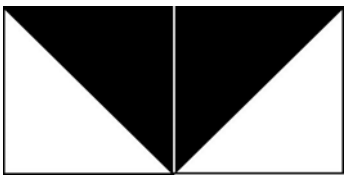
C. What fraction of the figure is shaded in part B above?

Answer: _____

M031347

Questions for Geometry Tiles continue.

A: Codes for Triangle Pattern

Code	Response	Item: M031347A
	Correct Response	
0	 or 	
	Incorrect Response	
70	Used two triangle tiles but created two small black triangles	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Knowing Facts and Procedures

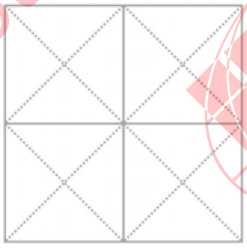
Key
See scoring guide

A. Use 2 of the triangle tiles to make one large black triangle. Then show what you did with your tiles by shading in your triangle below.

Shade in Your Triangle Here

B. Use all 4 triangle tiles to make a black square. Then show what you did with your tiles by shading in your square below.

Shade in Your Square Here



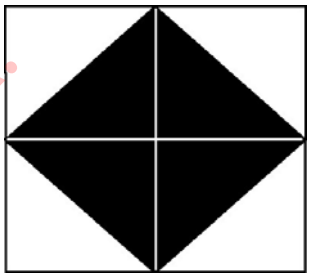
C. What fraction of the figure is shaded in part B above?

Answer: _____

M031347

Questions for Geometry Tiles continue.

B: Codes for Square Pattern

Code	Response	Item: M031347B
	Correct Response	
10		
	Incorrect Response	
70	Used four triangle tiles but did not create a black square	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Fractions and decimals

Cognitive Domain
Knowing Facts and Procedures

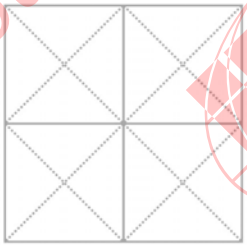
Key
See scoring guide

A. Use 2 of the triangle tiles to make one large black triangle. Then show what you did with your tiles by shading in your triangle below.

Shade in Your Triangle Here

B. Use all 4 triangle tiles to make a black square. Then show what you did with your tiles by shading in your square below.

Shade in Your Square Here



C. What fraction of the figure is shaded in part B above?

Answer: _____

M031347

Questions for Geometry Tiles continue.

C: Codes for Fraction of Pattern Shaded

Code	Response	Item: M031347C
	Correct Response	
10	$\frac{1}{2}$ or equivalent	
11	Correct fraction based on incorrect figure in part B	
	Incorrect Response	
70	$\frac{1}{4}$	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Fractions and decimals

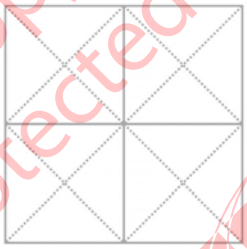
Cognitive Domain
Knowing Facts and Procedures

Key
See scoring guide

Making Fractions

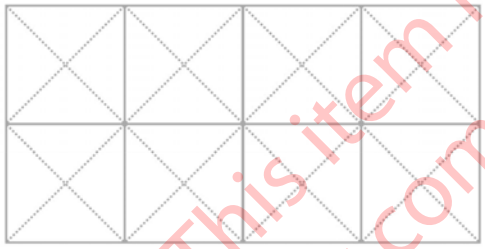
A. WITHOUT using any triangle tiles, place 4 tiles so that $\frac{1}{2}$ of a square shape is black. Then shade in the square below to show what you did with your tiles.

Shade in Here



B. Place 8 tiles so that $\frac{5}{8}$ of the rectangle shape is black. Then shade in the rectangle below to show what you did with your tiles.

Shade in Here



End of Geometry Tiles section.

M031348_1

A: Codes for 4-Tile Pattern without Triangles

Code	Response	Item: M031348A
	Correct Response	
10	Draws a pattern made up of 2 black tiles and two white tiles. See examples below. 	
	Incorrect Response	
70	Shaded ½ of the figure but used triangle tiles	
71	Shaded ¼ of the figure	
72	Shaded ¾ of the figure	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Fractions and decimals

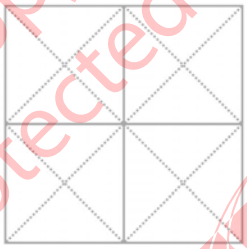
Cognitive Domain
Reasoning

Key
See scoring guide

Making Fractions

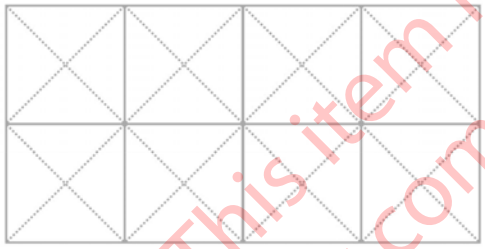
A. WITHOUT using any triangle tiles, place 4 tiles so that $\frac{1}{2}$ of a square shape is black. Then shade in the square below to show what you did with your tiles.

Shade in Here



B. Place 8 tiles so that $\frac{5}{8}$ of the rectangle shape is black. Then shade in the rectangle below to show what you did with your tiles.

Shade in Here



End of Geometry Tiles section.

M031348_1

B: Codes for 8-Tile Pattern

Code	Response	Item: M031348B
	Correct Response	
20	Any figure using 3 black, 1 white, and 4 triangle tiles: 	
	Partially Correct Response	
10	$\frac{5}{8}$ of the figure shaded without using correct tiles	
	Incorrect Response	
70	$\frac{1}{2}$ of the figure shaded	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

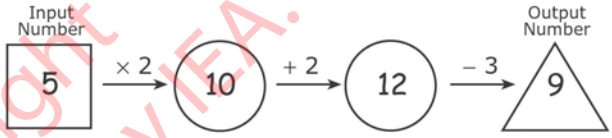
Content Domain
Algebra

Main Topic
Relationships

Cognitive Domain
Knowing Facts and Procedures

Key
B

A number machine takes a number and operates on it.
When the Input Number is 5, the Output Number is 9, as shown below.



When the Input Number is 7, which of these is the Output Number?

(A) 11
(B) 13
(C) 14
(D) 25

M031190

TIMSS 2003

$204 \div 4 =$

Answer: _____

M031306

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Knowing Facts and Procedures

Key
See scoring guide

Code	Response	Item: M031306
	Correct Response	
10	51	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

For every soft drink bottle that Fred collected, Maria collected 3. Fred collected a total of 9 soft drink bottles. How many did Maria collect?

Ⓐ 3
Ⓑ 12
Ⓒ 13
Ⓓ 27

M031108

Content Domain
Number

Main Topic
Ratio, proportions, and percent

Cognitive Domain
Solving Routine Problems

Key
D

TIMSS 2003

Each student needs 8 notebooks for school. How many notebooks are needed for 115 students?

Answer: _____

M031011

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

Code	Response	Item: M031011
	Correct Response	
10	920	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

There are 9 rows of chairs. There are 15 chairs in each row.
What is the total number of chairs?

Answer: _____

M031304

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

Code	Response	Item: M031304
	Correct Response	
10	135	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain	**Algebra**
Main Topic	**Patterns**
Cognitive Domain	**Solving Routine Problems**
Key	**C**

M031023

4	11	6
9		5
8	3	10

The rule for the table is that numbers in each row and column must add up to the same number. What number goes in the center of the table?

Ⓐ 1
Ⓑ 2
Ⓒ 7
Ⓓ 12

TIMSS 2003

M031008

Simon wants to watch a film that is between $1\frac{1}{2}$ and 2 hours long.

Which of the following films should he choose?

Ⓐ a 59-minute film
Ⓑ a 102-minute film
Ⓒ a 121-minute film
Ⓓ a 150-minute film

Content Domain
Measurement

Main Topic
Attributes and units

Cognitive Domain
Solving Routine Problems

Key
B

TIMSS 2003

M031338

Which of these could equal 150 milliliters?

(A) The amount of water in a cup
(B) The length of a kitten
(C) The weight of an egg
(D) The area of a coin

Content Domain
Measurement

Main Topic
Attributes and units

Cognitive Domain
Knowing Facts and Procedures

Key
A

TIMSS 2003

A. Draw 1 straight line on this rectangle to divide it into 2 triangles.

B. Draw 1 straight line on this rectangle to divide it into 2 rectangles.

C. Draw 2 straight lines on this rectangle to divide it into 1 rectangle and 2 triangles.

M031272

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

A: Codes for Making 2 Triangles

Code	Response	Item: M031272A
	Correct Response	
10	One diagonal drawn	
	Incorrect Response	
70	One horizontal or vertical line drawn	
79	Other incorrect (including crossed out/erased, stray marks, illegible or off task).	
	Nonresponse	
99	Blank	

TIMSS 2003

A. Draw 1 straight line on this rectangle to divide it into 2 triangles.

B. Draw 1 straight line on this rectangle to divide it into 2 rectangles.

C. Draw 2 straight lines on this rectangle to divide it into 1 rectangle and 2 triangles.

M031272

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

B: Codes for Making 2 Rectangles

Code	Response	Item: M031272B
	Correct Response	
10	One horizontal or vertical line drawn	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

A. Draw 1 straight line on this rectangle to divide it into 2 triangles.

B. Draw 1 straight line on this rectangle to divide it into 2 rectangles.

C. Draw 2 straight lines on this rectangle to divide it into 1 rectangle and 2 triangles.

M031272

Content Domain
Geometry

Main Topic
Two- and three-dimensional shapes

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

C: Codes for Making 1 Rectangle and 2 Triangles

Code	Response	Item: M031272C
	Correct Response	
10	Two lines correctly drawn to show a smaller rectangle and two triangles	
	Incorrect Response	
70	Attempt made with two lines drawn but drawing does not show a line dividing the rectangle into 2 rectangles with a diagonal accurately drawn in one of them	
79	Other incorrect (including crossed out/erased, stray marks, illegible or off task)	
	Nonresponse	
99	Blank	

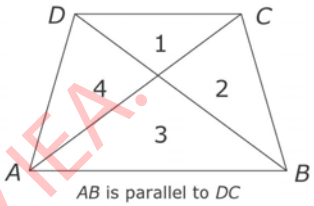
TIMSS 2003

Content Domain
Geometry

Main Topic
Congruence and similarity

Cognitive Domain
Knowing Facts and Procedures

Key
See scoring guide



AB is parallel to *DC*

Two of the four triangles in the figure above are the same shape but different sizes. Shade in those two triangles.

M031267

Code	Response	Item: M031267
	Correct Response	
10	Triangles 1 and 3	
	Incorrect Response	
70	Triangles 2 and 4	
71	Triangles 1 and 2; Triangles 3 and 4; Triangles 1 and 4; OR Triangles 2 and 3	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Data

Main Topic
Data representation

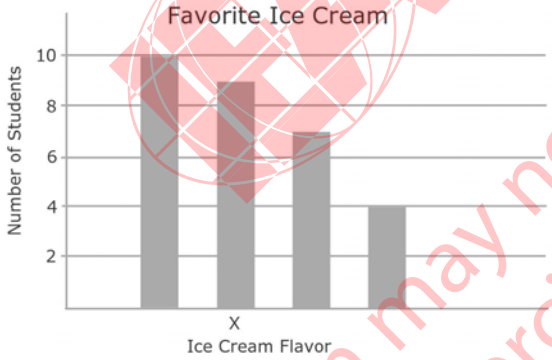
Cognitive Domain
Using Concepts

Key
C

Favorite Ice Cream	Number of Students
Butterscotch	||||
Chocolate	𝍸 𝍸
Strawberry	𝍸 ||||
Vanilla	𝍸 ||

A teacher asked 30 students in her class the flavor of their favorite ice cream. The table above shows how the teacher recorded the students' responses.

In the bar graph below, which ice cream flavor corresponds to the bar that is labeled X?



(A) butterscotch
(B) chocolate
(C) strawberry
(D) vanilla

M031315

Number Tiles
Instructions: The next two questions are about number tiles.

TIMSS 2003

For this item, you have been given a piece of cardboard with 10 square number tiles like the ones shown below. Take the piece of cardboard and punch out the 10 tiles.

If you do not have the piece of cardboard raise your hand.

MP31344

Questions for Number Tiles begin on the next page.

Get to 20 Number Game

Two children, Joan and Herbert, are learning to play a game "Get to 20." Here are the rules for the game.

GET TO 20
RULES

Pick Tiles: Each player draws three number tiles.

Add Tiles: Each player places the three tiles to make an addition problem with the sum total closest to 20.

For example, here are four ways a player who draws [1], [4], and [5] could place the tiles:

$$\begin{array}{r} 5\ 1 \\ +\ 4 \\ \hline 55 \end{array} \quad \text{or} \quad \begin{array}{r} 4\ 5 \\ +\ 1 \\ \hline 46 \end{array} \quad \text{or} \quad \begin{array}{r} 1\ 5 \\ +\ 4 \\ \hline 19 \end{array} \quad \text{or} \quad \begin{array}{r} 1 \\ +\ 5 \\ +\ 4 \\ \hline 10 \end{array}$$

This player should choose to show the addition problem $\begin{array}{r} 15 \\ +4 \\ \hline 19 \end{array}$ because 19 is the total closest to 20.

M031344_1

This Number Tiles question continues on the next page.

TIMSS 2003

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
See scoring guide

Joan and Herbert played the game "Get to 20."

Joan picked [2], [7], and [9]. Herbert picked [1], [3], and [6].

A. What is the addition problem that Joan could make with her number tiles that gives a total closest to 20? Be sure to include the total.

B. What is the addition problem that Herbert could make with his number tiles that gives a total closest to 20? Be sure to include the total.

C. Herbert said, "If I pick [1], [4], and [6], I can make 20 two different ways."

Show two ways Herbert could make 20 with [1], [4], and [6].

First way:

Second way:

M031344_2

Questions for Number Tiles continue.

A: Codes for Joan's Addition Problem

Code	Response	Item: M031344A
	Correct Response	
10	2 + 7 + 9 = 18	
11	18 without addition statement shown	
	Incorrect Response	
70	2 + 7 + 9 but 18 not shown	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
See scoring guide

Joan and Herbert played the game "Get to 20."

Joan picked [2], [7], and [9]. Herbert picked [1], [3], and [6].

A. What is the addition problem that Joan could make with her number tiles that gives a total closest to 20? Be sure to include the total.

B. What is the addition problem that Herbert could make with his number tiles that gives a total closest to 20? Be sure to include the total.

C. Herbert said, "If I pick [1], [4], and [6], I can make 20 two different ways."

Show two ways Herbert could make 20 with [1], [4], and [6].

First way:

Second way:

M031344_2

Questions for Number Tiles continue.

B: Codes for Herbert's Addition Problem

Code	Response	Item: M031344B
	Correct Response	
10	13 + 6 = 19 OR 16 + 3 = 19	
11	19 without addition statement shown	
	Incorrect Response	
70	13 + 6 OR 16 + 3 but 19 not shown	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Using Concepts

Key
See scoring guide

Joan and Herbert played the game "Get to 20."

Joan picked [2], [7], and [9]. Herbert picked [1], [3], and [6].

A. What is the addition problem that Joan could make with her number tiles that gives a total closest to 20? Be sure to include the total.

B. What is the addition problem that Herbert could make with his number tiles that gives a total closest to 20? Be sure to include the total.

C. Herbert said, "If I pick [1], [4], and [6], I can make 20 two different ways."

Show two ways Herbert could make 20 with [1], [4], and [6].

First way:

Second way:

M031344_2

Questions for Number Tiles continue.

C: Codes for How Herbert Could Make 20

Code	Response	Item: M031344C
	Correct Response	
20	Both ways correct 16 + 4 AND 14 + 6	
	Partially Correct Response	
10	Only one way correct 16 + 4 OR 14 + 6	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Whole numbers

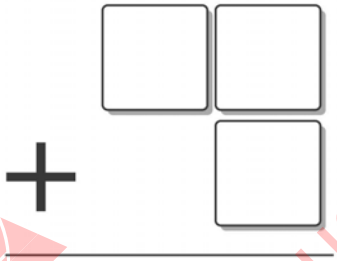
Cognitive Domain
Solving Routine Problems

Key
See scoring guide

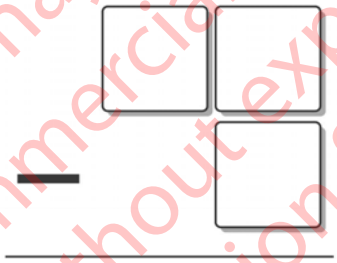
Finding the Largest Number Game

Using the number tiles, Joan and Herbert played a new game. They placed the numbers to make the largest answer.

A. Use the tiles 1, 5, and 9. Write the numbers on the tiles in the boxes below to make the largest answer when you add.



B. Use the tiles 2, 3, and 7. Write the numbers on the tiles in the boxes below to make the largest answer when you subtract.



M031345_1

This Number Tiles question continues on the next page.

A: Codes for Largest Answer to Addition Problem

Code	Response	Item: M031345A
	Correct Response	
10	91 + 5 or 95 + 1	
	Incorrect Response	
70	Any other arrangement of digits 1, 5, and 9	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

Main Topic
Whole numbers

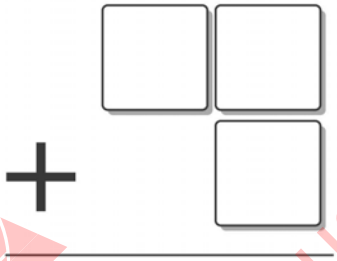
Cognitive Domain
Solving Routine Problems

Key
See scoring guide

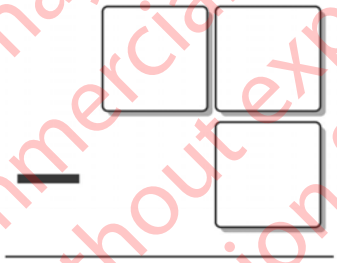
Finding the Largest Number Game

Using the number tiles, Joan and Herbert played a new game. They placed the numbers to make the largest answer.

A. Use the tiles 1, 5, and 9. Write the numbers on the tiles in the boxes below to make the largest answer when you add.



B. Use the tiles 2, 3, and 7. Write the numbers on the tiles in the boxes below to make the largest answer when you subtract.



M031345_1

This Number Tiles question continues on the next page.

B: Codes for Largest Answer to Subtraction Problem

Code	Response	Item: M031345B
	Correct Response	
10	73 - 2	
	Incorrect Response	
70	72 - 3	
71	Any other arrangement of the digits 2, 3, and 7	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Content Domain
Number

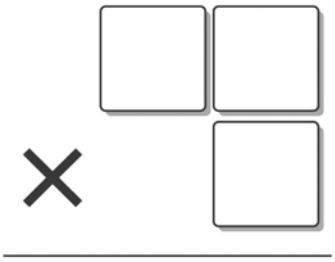
Main Topic
Whole numbers

Cognitive Domain
Solving Routine Problems

Key
See scoring guide

M031345_2

C. Use the tiles [1], [4], and [5]. Write the numbers on the tiles in the boxes below to make the largest answer when you multiply.



End of Number Tiles section.

C: Codes for Largest Answer to Multiplication Problem

Code	Response	Item: M031345C
	Correct Response	
10	41 × 5	
	Incorrect Response	
70	51 × 4	
71	Any other arrangement of the digits 1, 4, and 5	
79	Other incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

Lia is practicing addition and subtraction problems. What number should Lia add to 142 to get 369?

Answer: _____

M031130

Content Domain
Number

Main Topic
Whole numbers

Cognitive Domain
Reasoning

Key
See scoring guide

Code	Response	Item: M031130
	Correct Response	
10	227	
	Incorrect Response	
79	Incorrect (including crossed out/erased, stray marks, illegible, or off task)	
	Nonresponse	
99	Blank	

TIMSS 2003

M031097

The distance from one town to another is 180 km. If Betty has to drive the distance in 3 hours, what must her average speed be in kilometers per hour?

(A) 180×3

(B) $180 + 3$

(C) $180 \div 3$

(D) $180 - 3$

Content Domain
Measurement

Main Topic
Tools, techniques, and formulas

Cognitive Domain
Solving Routine Problems

Key
C

TIMSS 2003

M031178

George practiced soccer six days a week.

For 3 of the days he practiced for 45 minutes each day.

For 3 of the days he practiced for 20 minutes each day.

In hours and minutes, what is the total amount of time George practiced on these six days?

Ⓐ 2 hours 20 minutes

Ⓑ 2 hours 55 minutes

Ⓒ 3 hours 5 minutes

Ⓓ 3 hours 15 minutes

Content Domain
Measurement

Main Topic
Tools, techniques, and formulas

Cognitive Domain
Solving Routine Problems

Key
D

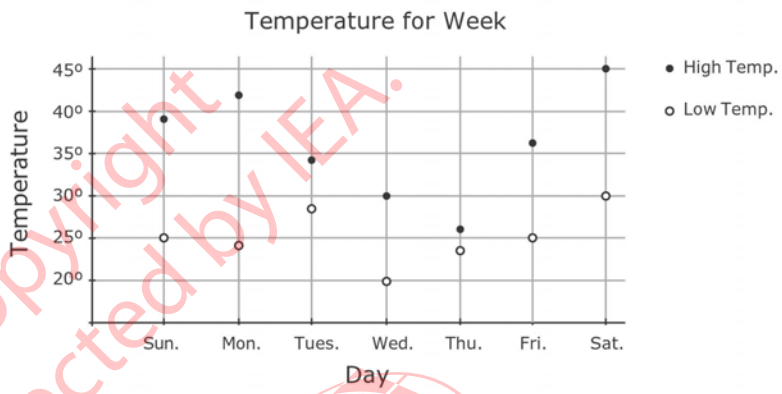
TIMSS 2003

Content Domain
Data

Main Topic
Data interpretation

Cognitive Domain
Solving Routine Problems

Key
A



M031333

The graph above shows the daily high and low temperatures for a week.

On which day is the difference between the high and low temperatures the greatest?

(A) Monday
(B) Thursday
(C) Friday
(D) Saturday