End of Grade 6 I.R.P.

Beginning of Grade 7

Diagnostic Math Assessment

Last updated: June 26, 2007

WNCP
Edition

Vancouver IslandNet
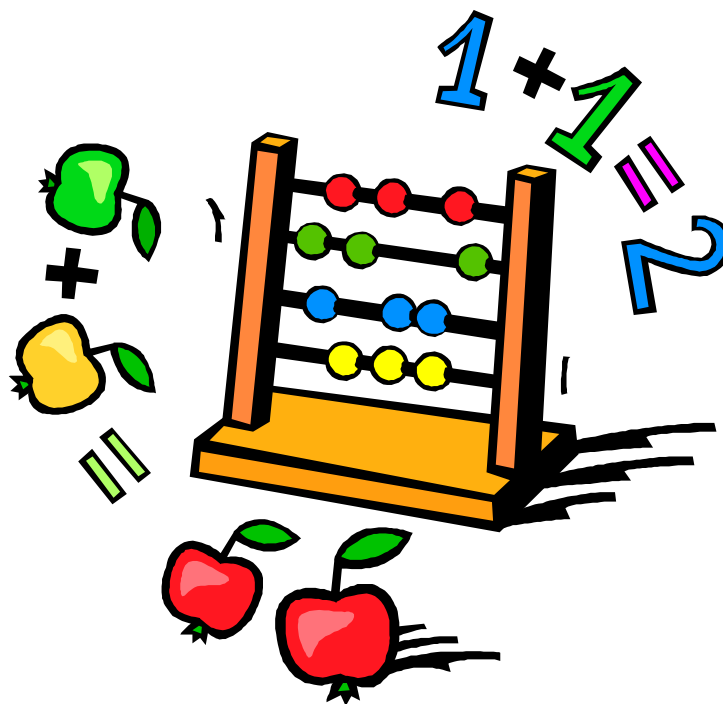
1) What is the numeral for **<u>fourteen million three hundred sixty thousand two hundred ten</u>**?

    A 14 206 201

    B 14 300 621

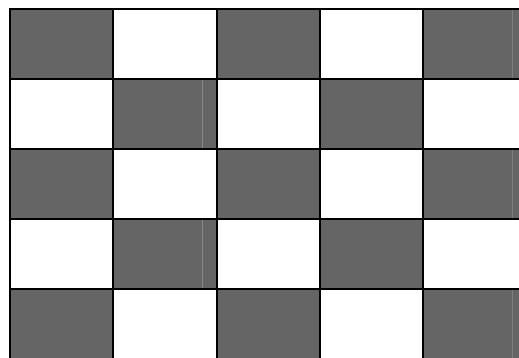   C 14 336 210

    D 14 360 210

2) What percent is shaded?

    A 12%

    B 13%

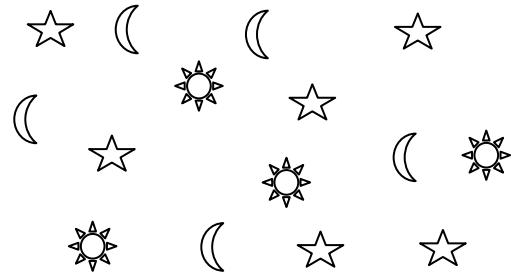   C 48%

    D 52%

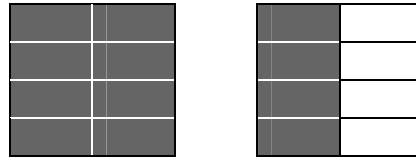3) Which is a factor of 84?

    A 28

    B 26

    C 24

    D 22

4) What is the ratio of ☆ to ☽ ?

      A 3:2

      B 4:5

      C 5:6

      D 6:5

5) Janelle ate $1\dfrac{1}{2}$ chocolate bars. What is this amount as an improper fraction?

      A $\dfrac{3}{4}$

      B $\dfrac{12}{4}$

      C $\dfrac{12}{8}$

      D $\dfrac{12}{16}$

6) Which comparison is true?

      A $-8 < -10$

      B $-7 > +4$

      C $-6 < -1$

      D $-3 > 0$

7) Solve: $4 + 6 \times 3 \div 2 - 1$

    A 12

    B 14

    C 22

    D 30

8) **About** how much will this coat cost on sale?

    A $65.00

    B $50.00

    C $20.00

    D $16.00

20%
off

$80

9) What is 3.016 written in words?

    A Three and sixteen tenths

    B Three and sixteen hundredths

    C Three and sixteen thousandths

    D Three and sixteen ten-thousandths

10)

Dried
Fruit

$2.47

Susan, Sam and Sandy each bought a bag of dried fruit.

How much money did they spend altogether?

A $2.47

B $4.94

C $7.41

D $9.88

11) How much would Madison sweat in 1 day?

Number of People	Amount of Sweat Per Day
7	5600 ml
5	4000 ml
4	3200 ml
2	1600 ml
1	? ml

A 500 ml

B 800 ml

C 1100 ml

D 1400 ml

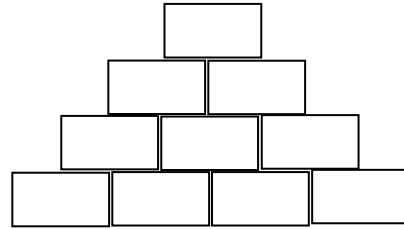12) In a class of 30 students there are 4 more boys than girls.
How many boys and girls are in the class?

Which equation can be used to sove this proble.?

A $30 = 4x + 4$

B $30 = 4 + x$

C $2x + 4 = 30$

D $30 = x + y$
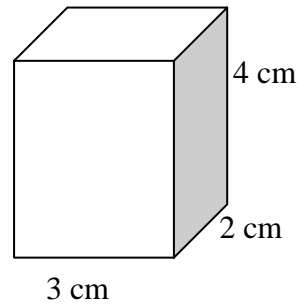
13) If the pattern continues, how many rows are needed for 36 bricks?
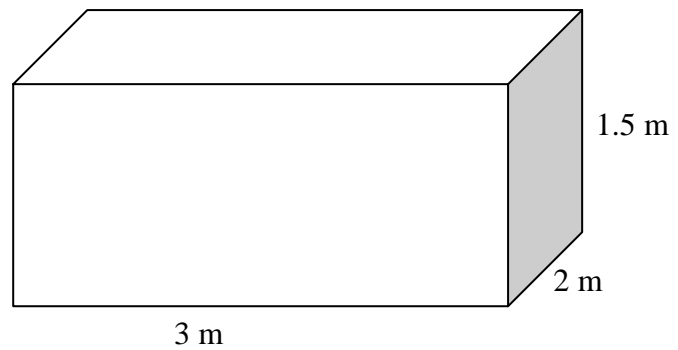
    A 6

    B 8

    C 10

    D 12

14) What is the surface area of this box?

    A 9 cm^2

    B 24 cm^2

    C 26 cm^2

    D 52 cm^2

4 cm

2 cm

3 cm

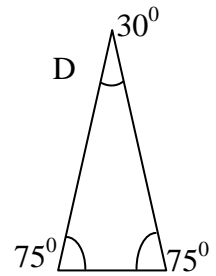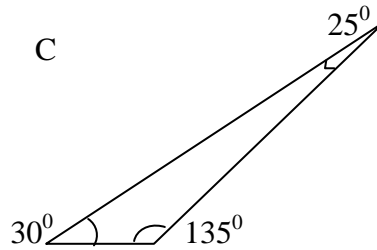15) What is the volume of the crate?

    A 6.5 m^3

    B 9.0 m^3

    C 13.5 m^3

    D 27.9 m^3

1.5 m

2 m

3 m

Use the diagrams below to answer questions 16 and 17.

A 90^0

B 60^0 60^0 60^0

C 30^0 135^0 25^0

D 30^0 75^0 75^0
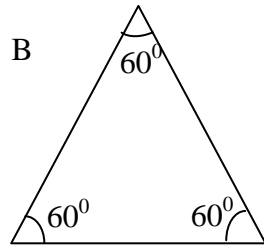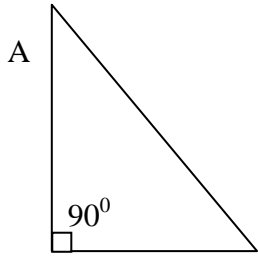
16) Which triangle is an isosceles triangle?

      A

      B

      C

      D

17) Which triangle is a scalene triangle?

      A

      B

      C

      D

18) The shape moves from R to S. This movement in space is a…?

      A rotation

      B reflection

      C translations

      D tessellations

R   S
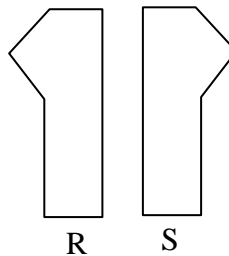
19) The perimeter of the polygon is 18. What is the missing side dimension?

A   2 cm

B   3 cm

C   4 cm

D   6 cm

? cm

2 cm

3 cm

2 cm

1 cm

6 cm
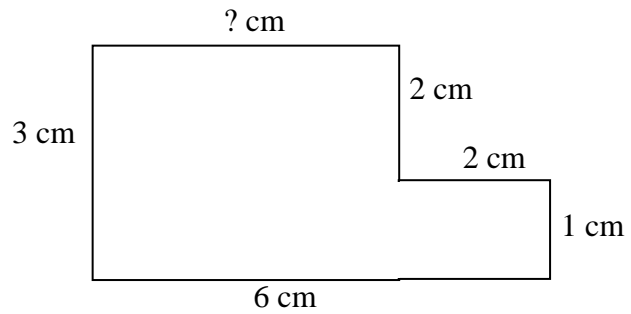
20) How many mosquitoes would 4 bats eat?

A   9 000

B   10 000

C   11 000

D   12 000

Number of Mosquitoes Bats Eat

# of bats
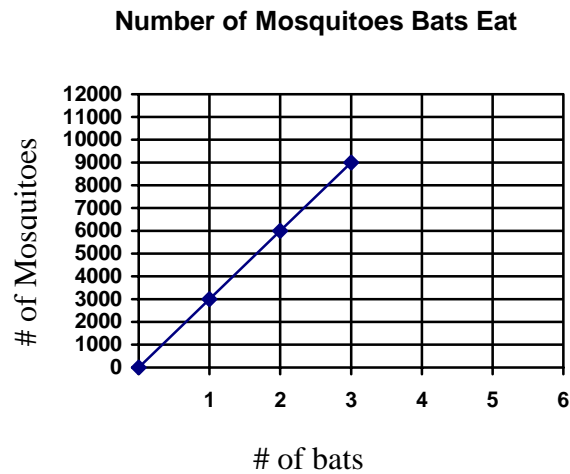
21) What are the coordinates of the point that completes the rectangle?

A   (1,6)

B   (5,6)

C   (6,5)

D   (6,6)
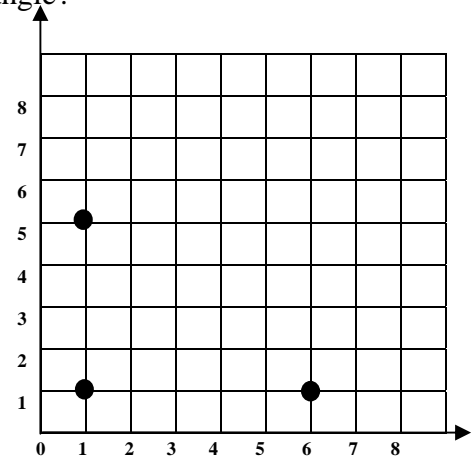
22) Trina is taking a sample survey to predict how many students are left handed in her school.

What would be the best sample to survey?

       A Your two best friends

       B The people who live in your house

       C The students in your class

       D Everyone in your neighbourhood

The faces of a tetrahedron are labelled 2, 3, 4, 5.

23) What is the probability of rolling a 2 or 5?

       A Probability $= \dfrac{1}{5}$

       B Probability $= \dfrac{1}{4}$

       C Probability $= \dfrac{1}{2}$

       D Probability $= \dfrac{3}{4}$

24) What is the probability of the arrow landing on the number 1?

       A Probability $= \dfrac{1}{4}$

       B Probability $= \dfrac{6}{13}$

       C Probability $= \dfrac{3}{4}$

       D Probability $= 2$
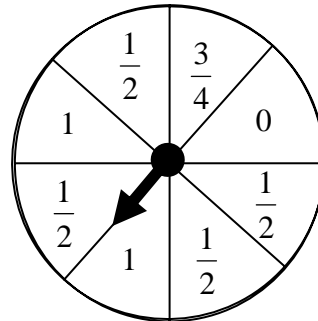
■ End of Multiple Choice Questions ■

Problem Solving - Written Response

25) SD Computer Store

SD Computer Store	
Pack of 10 CD's	$5.40
Sets of Speakers	$6.60
Mouse	$4.50
Surge Protector	$7.90
Mouse Pad	$3.10

Mrs Howe has $100 to spend at the computer store.
She buys:
- 6 sets of speakers
- 3 surge protectors
- 6 mouse pads

How much money does she have left?
Show all of your work

26) Gordon is building a patio by making squares with black tiles and white tiles in this pattern.
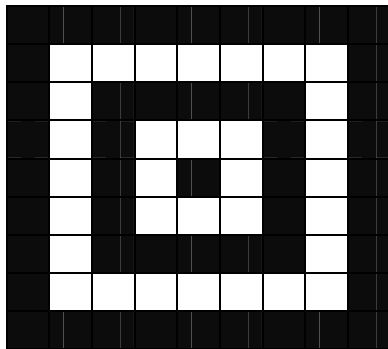
How many black tiles will he need to build the next large black square?

Show your work.

27) Doug tosses 2 dice.

How many combinations could he get?

Show your work.
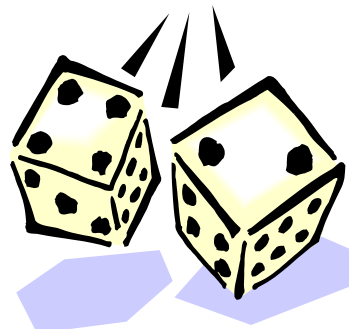
28) How many juice boxes will fit in the shipping box?

Shipping Box

60 cm

60 cm

60 cm

Apple Juice

10 cm

5 cm

3 cm
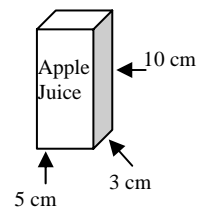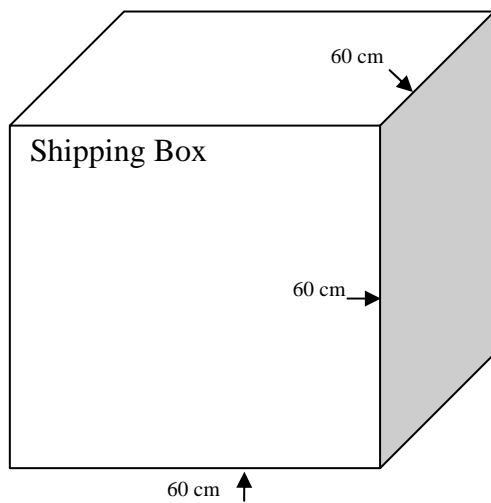
BASIC MATH COMPUTATION from Grade 6

476 + 4674 =	8 637 – 7909 =	49 x 5 =	28 x 14 =
370 x 94 =	360 ÷ 4 =	1 435 ÷ 7 =	438.7 + 8.61 =
14.8 - 7.9 =	76.3 - 14.209 =	86.9 x 7 =	798.73 x 2 =
4)7.44	9)4.005	3 + 7 x 4 =	5 x ☐ - 4 = 26

Answer Key

		Strand				Strand
1.	D	(Number) Word form to standard form		13.	B	(Patterns) Projections
2.	D	(Number) Percent		14.	D	(Shape & Space) Surface area
3.	A	(Number) Factoring		15.	B	(Shape & Space) Volume
4.	D	(Number) Ratio		16.	D	(Shape & Space) Classification of triangles
5.	C	(Number) Fractions - improper		17.	C	(Shape & Space) Classification of triangles
6.	C	(Number) Integers		18.	B	(Shape & Space) Transformations
7.	A	(Number) Operations		19.	C	(Shape & Space) Perimeter
8.	A	(Number) Percent		20.	D	(Statistics & Probability) Line Graphs
9.	C	(Number) Standard decimal to word form		21.	C	(Statistics & Probability) Ordered pairs
10.	C	(Number) Decimals		22.	C	(Statistics & Probability) Samples
11.	B	(Patterns) T-tables		23.	C	(Statistics & Probability) Probability
12.	C	(Patterns) Equations		24.	A	(Statistics & Probability) Probability

25) Computer store

Purchased:

6 - speakers	$39.60
3 - surge protectors	$ 23.70
6 - mouse pads	$ 18.60
	$81.90

* $18.10 left

1	2	3	4
▪ A start beyond copying that shows some understanding	▪ correct answer only ($18.10) - no work shown ▪ found these amounts ($39.60, $23.70, $18.60) but went no further. Reached a sub goal.	▪ found the total amount spent ($81.90) but not the difference.	▪ correct answer ($81.90) with supporting work. ▪ may have a copy or computational error but not an error of misunderstanding.

26) 48 black tiles.

1	2	3	4
▪ A start beyond copying that shows some understanding	▪ Correct answer. No work shown. ▪ Appropriate strategy but not carried far enough	▪ Correct answer but unclear strategy or ▪ Appropriate strategy but ignored a condition (e.g., answer = 40 not 48)	▪ Correct answer (48 tiles) with clear strategy ▪ Incorrect answer with a copy error or minor computation error (not a misunderstanding)

27) 21 combinations

1	2	3	4
▪ A start beyond copying that shows some understanding	▪ Correct answer but no work shown ▪ Appropriate strategy but not carried out far enough	▪ Correct answer but unclear strategy or ▪ Appropriate strategy but ignored a condition (e.g. 6, 1 repeated as 1,6)	▪ Correct answer with clear strategy ▪ Incorrect answer with copy or minor computation error (not a misunderstanding)

28) 1440 juice boxes

One possible method: $10 \times 3 \times 5 = 150 cm^3$ (volume of juice box)

$$60 \times 60 \times 60 = 21600 cm^3 \text{ (volume of shipping box)}$$
$$21600 \div 150 = 1440$$

1	2	3	4
▪ made an attempt that shows some understanding.	▪ Appropriate strategy but not carried far enough	▪ Correct answer but unclear strategy ▪ Appropriate strategy but ignored a condition (e.g., both volumes calculated but no division calculation)	▪ Correct answer with clear strategy ▪ Incorrect answer with copy or minor computation error (not a misunderstanding)

Basic Math Computations

5 150	728	245	392
34 780	90	205	447.31
6.9	62.091	608.3	1 597.46
1.86	0.445	31	6

Quick Scale: Grade 6 Numeracy

This Quick Scale *is a summary of the criteria described in detail in the* Rating Scale *that follows. These criteria may apply at any time of the year, depending when specific skills or concepts are introduced.*

Aspect	Not Yet Within Expectations	Meets Expectations (Minimal Level)	Fully Meets Expectations	Exceed Expectations
Snapshot	**The student may be unable to complete the task without close, ongoing assistance. Unable to provide a relevant extension.**	**The work satisfies most basic requirements of the task, but it is *flawed or incomplete in some way*. May produce a simple extension with help.**	**The work satisfies basic requirements. If asked. The student can produce a relevant extension or further illustration.**	**Work is complete, accurate, and efficient. The student may volunteer an extension, an application, or a further illustration.**
Concepts and Applications* ▪ recognizing mathematics ▪ grade-specific concepts, skills ▪ patterns, relationships	▪ unable to identify mathematical concepts or procedures needed ▪ does not apply relevant mathematical concepts and skills appropriately; major errors or omissions ▪ often unable to describe patterns or relationships	▪ identifies most mathematical concepts and procedures needed ▪ applies most relevant mathematical concepts and skills appropriately; some errors or omissions ▪ may need help to describe and use patterns and relationships	▪ identifies mathematical concepts and procedures needed ▪ applies mathematical concepts and skills appropriately; may be inefficient, make minor errors or omissions ▪ describes and uses basic patterns and relationships	▪ identifies mathematical concepts and procedures needed; may offer alternatives ▪ applies mathematical concepts and skills accurately and efficiently; thorough ▪ independently describes and uses patterns and relationships
Strategies and Approaches ▪ procedures ▪ estimates to verify solutions	▪ appears unsystematic and inefficient ▪ results or solutions are often improbable	▪ Generally follows instructions without adjusting or checking ▪ May need reminding to verify results or solutions; estimates are generally logical	▪ Follows logical steps; may be inefficient ▪ Makes logical, relatively accurate estimates to verify results or solutions	▪ Structures the task efficiently; may find a shortcut ▪ Makes logical estimates to verify results or solutions
Accuracy ▪ recording, calculations	▪ often includes major errors in recording or calculations	▪ may include some errors in recording or calculations; generally "close"	▪ recording and calculations are generally accurate; may include minor errors	▪ recording and calculations are accurate; may use mental math
Representation and Communication ▪ presenting work ▪ constructing charts, diagrams, displays ▪ explaining procedures, results	▪ work is often confusing, with key information omitted ▪ often omits required charts, diagrams, or graphs or makes major errors ▪ explanations are incomplete or illogical	▪ most work is clear; may omit some needed information ▪ creates required charts, diagrams, or graphs; some features may be inaccurate or incomplete ▪ explanations may be incomplete or imprecise	▪ work is generally clear and easy to follow ▪ uses required tables, charts, diagrams or graphs appropriately; may have minor errors or flaws ▪ explains procedures and results logically in own words	▪ work is clear, detailed, and logically organized ▪ uses required charts, diagrams, or graphs effectively and accurately ▪ explains procedures and results clearly and logically; may include visuals

* You may want to list key curriculum concepts or skills for a particular task.

_____   _____   _____

_____   _____   _____