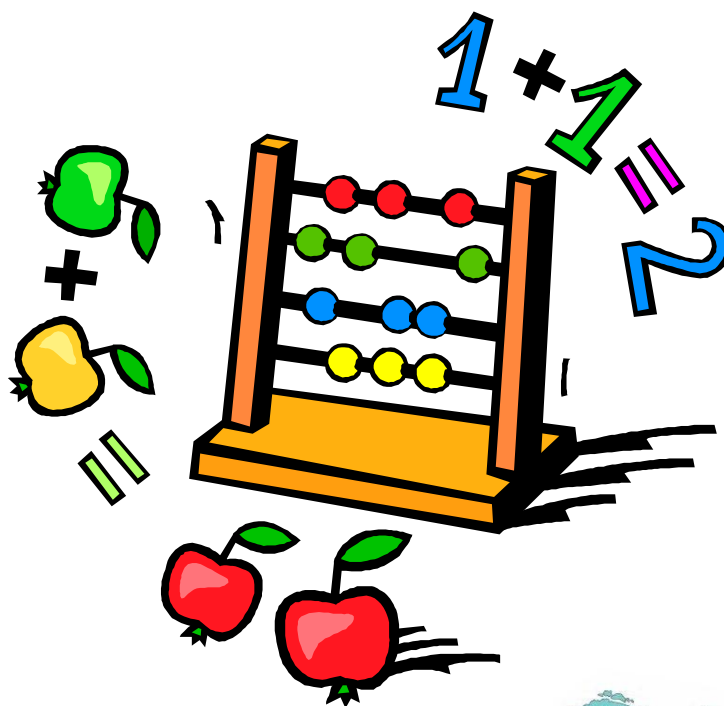End of Grade 7 I.R.P.

Beginning of Grade 8

Diagnostic Math Assessment

WNCP
Edition

Vancouver IslandNet

1) Which number is divisible by both 3 and by 2?

     A 276

     B 823

     C 831

     D 1108

2) What fraction is greater than 0.5?

     A $\dfrac{1}{4}$

     B $\dfrac{2}{5}$

     C $\dfrac{2}{3}$

     D $\dfrac{2}{6}$

3) Susan bought 100g of nuts.
6g of the nuts were cashews.
What percent of the mixture were cashews?

     A 0.06%

     B 0.6%

     C 6%

     D 60%

4) What is 0.6 expressed as a fraction?

    A $\dfrac{6}{10\,000}$

    B $\dfrac{6}{1000}$

    C $\dfrac{6}{100}$

    D $\dfrac{3}{5}$

5)

Place	Temp
Port Alberni	-8^{0}C
Courtenay	-6^{0}C
Port Hardy	-1^{0}C
Victoria	1^{0}C

What is the difference between the temperature in Port Alberni and Victoria?

    A 9^{0}C

    B 7^{0}C

    C -7^{0}C

    D -9^{0}C

6) Lee ate $\dfrac{3}{5}$ of the pizza.

Mark ate $\dfrac{1}{4}$ of the pizza.

How much of the pizza did they eat altogether?

    A $\dfrac{2}{9}$

    B $\dfrac{4}{9}$

    C $\dfrac{7}{20}$

    D $\dfrac{17}{20}$

7) What is $\dfrac{23}{3}$ in decimal form?

    A 7.6

    B $7.\overline{6}$

    C 23.3

    D $23.\overline{3}$

8) Popsicles cost 45¢ each.
   The price is reduced by 20%.
   How many popsicles can then be purchased with $4.00?

    A 9

    B 10

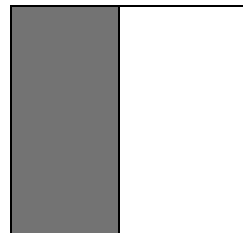   C 11

    D 12

9) What percent of the diagram is shaded?

    A 30%

    B 40%

    C 50%

    D 60%

10) Which of the following fractions is smallest?

 A $\dfrac{2}{3}$

 B $\dfrac{3}{4}$

 C $\dfrac{5}{6}$

 D $\dfrac{3}{8}$

11) Last year, a Terry Fox Run raised $800.
 This year, the run raised 40% more.
 How much did it raise?
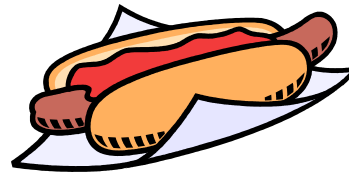
 A $320

 B $480

 C $840

 D $1120

12) Students are selling hot dogs for $1.75 each.
 Each dog costs $0.62 to make.
 They sell 87 hot dogs.
 What is their profit?

 A $53.94

 B $98.31

 C $152.25

 D $206.19

13) Solve for n in the following equation.

$$2n - 7 = 6 + 5$$

    A 2

    B 9

    C 11

    D 18

14) Which of the following is an example of an expression?

    A $2x + 4$

    B $5x + 4 = 29$

    C $28 - x = 14 + 7$

    D $12 + 6 = 36 \div x$

15) 1, 3, 6, 10, __, __, __

    If the pattern continues, what are the next 3 numbers?

    A 15, 20, 25

    B 15, 21, 27
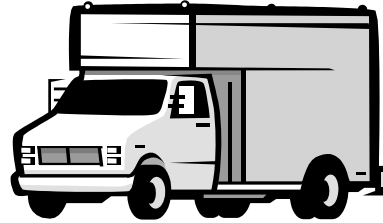
    C 15, 21, 28

    D 16, 25, 37

16) George drives a delivery truck.
When he started the day he had 18 boxes.
He delivered 10 boxes and picked up 3 boxes.
When he finished his day, how many boxes were on the truck?

    A 5

    B 11

    C 25

    D 31

17) Which is the correct equation for the following statement: one more than double a number is 11?

    A $x + 1 = 11$

    B $2x + 1 = 11$

    C $2x = 11 + 1$

    D $x + 2x = 11$
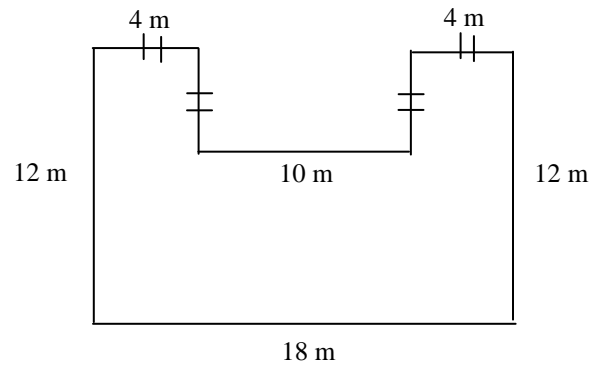
18) What is the circumference of a circle whose diameter is 9 cm?

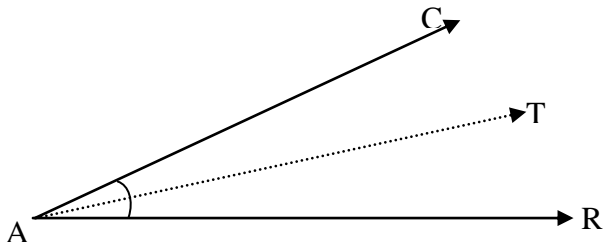   A 12.14 cm

    B 14.13 cm

    C 28.26 cm

    D 63.59 cm

19) A storage area in the school has this shape.

What is the area?

    A 40 m^2

    B 68 m^2

    C 176 m^2

    D 216 m^2

20)

If AT is an angle bisector and $\angle CAT = 15^0$, then $\angle TAR =$

    A 10^0

    B 15^0

    C 30^0

    D 60^0

21) Which of the following represents the letter "T" rotated 270^0 clockwise?

    A ⊢

    B ⊤

    C ⊣

    D ⊥
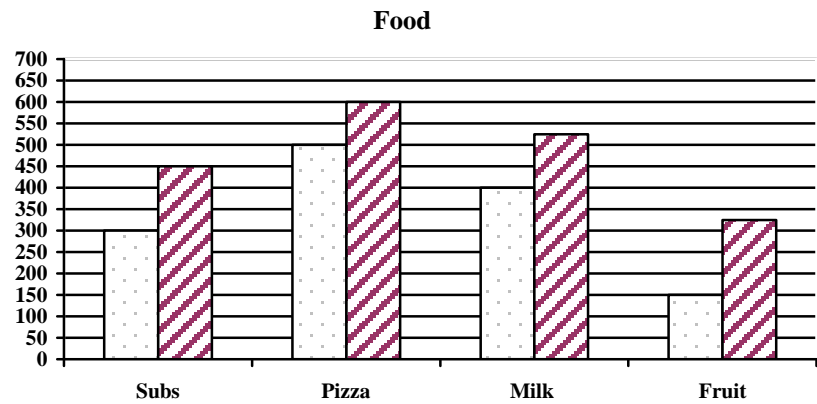
22) A circular swimming pool has a radius of 5 metres.
What is the approximate area of the pool?

    A 15.7 m^2

    B 25 m^2

    C 31.4 m^2

    D 78.5 m^2

23) The school store sells subs, pizza, milk and fruit.
Which food item shows the greatest increase in sales?
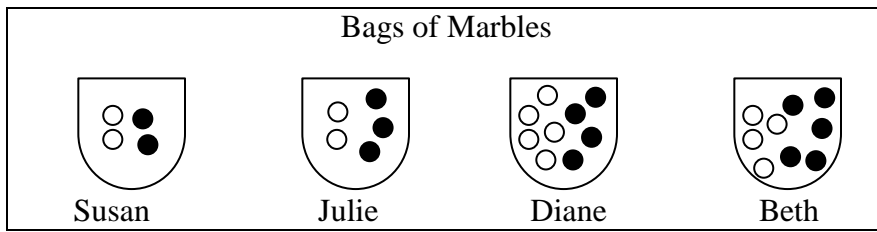
    A Subs

    B Pizza

    C Milk

    D Fruit

Food

24) Some students had the following spelling results:
16, 13, 12, 15, 12, 9, 11, 16, 20, 16
What is the mode of the scores?

    A 12

    B 13

    C 16

    D 14

25)

Bags of Marbles

Susan   Julie   Diane   Beth

Whose bag gives the best probability of selecting a black marble?

    A Susan

    B Julie

    C Diane

    D Beth

■ End of Multiple Choice Questions ■

Problem Solving - Written Response

26. MacKenzie spent $5.00 on golf balls.
    - Used balls cost 50¢ each.
    - New balls cost 75¢ each.

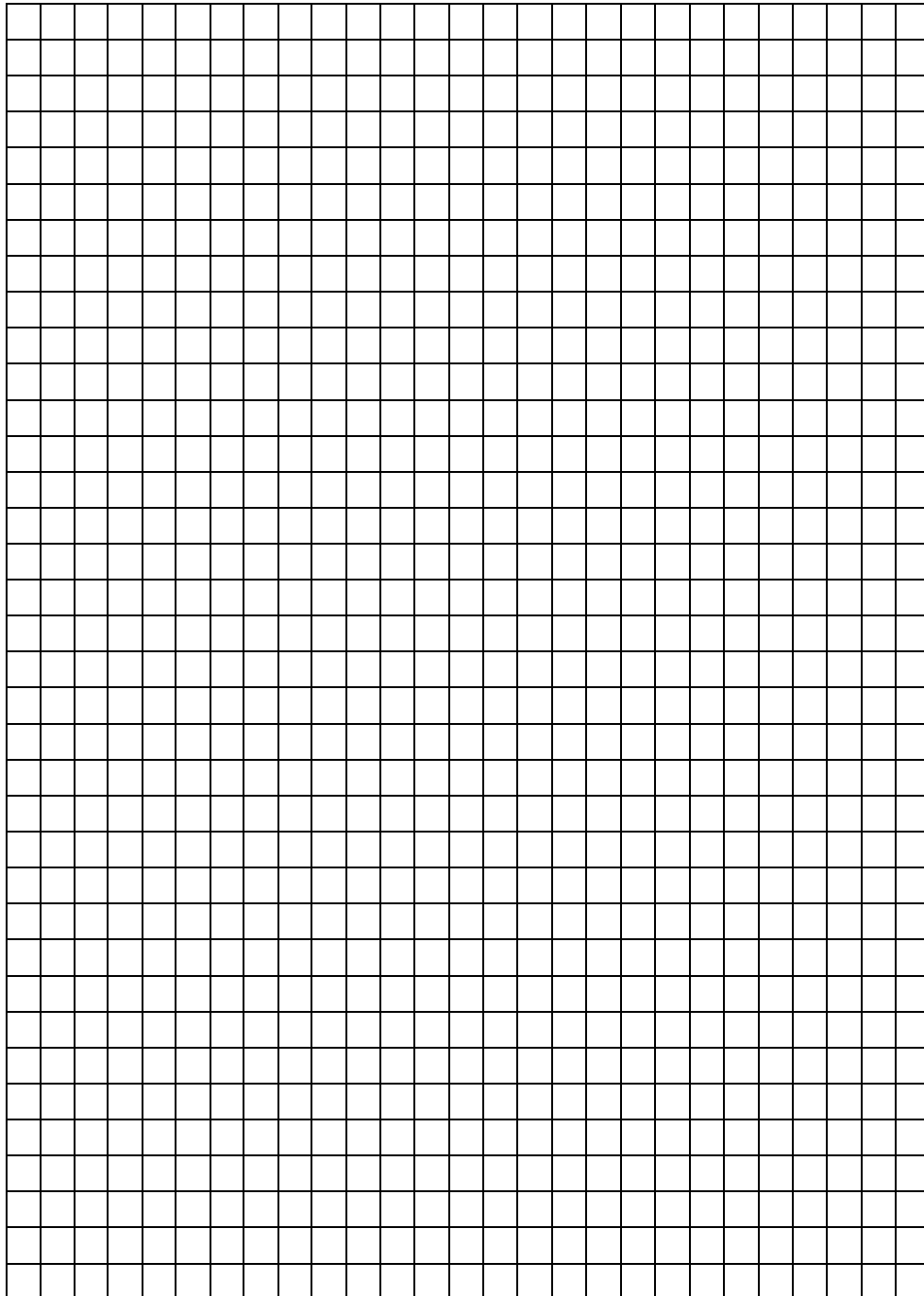   Show all the possible ways MacKenzie could have spent $5.00 on golf balls.

27. The class is designing rectangular shaped gardens.
  - Each garden has an area of 36 m^2.
  - Each garden has a perimeter less than 35 m.

Show all the possible ways to build the gardens.
Calculate the perimeter and show the dimensions for each garden.

28. Chloe is using two different colours to paint her room.
- She must choose from blue, yellow, red, green and purple.

Show all the possible combinations Chloe could paint her room.

29. Tickets for the dance are numbered 1 to 150.
Any student with a 5 on their ticket wins a prize.
How many students win a prize?

Show your work.

BASIC MATH COMPUTATION from Grade 7

202 + 7786	32.5 + 0.67 + 3	4301 - 2987	8 - 2.45
345 × 26	1.13 × 87	$6456 \div 30$	$400 \div 0.3$
(+2) + (-14)	(+4) - (+11)	$\dfrac{2}{3} + \dfrac{3}{5}$	$(-75) - (-5)$
$4 + 3(2 + 9 \div 3)$	$\dfrac{9 + 15 \div 5}{3 \times 2}$	$2 \times 3^2 - 6$	22% of 250

Answer Key

1. A (Number) Divisibility
2. C (Number) Greatest common factor
3. C (Number) Percent
4. D (Number) Decimal to fraction
5. A (Number) Integers
6. D (Number) Adding unlike denominations
7. B (Number) Fraction to decimal
8. C (Number) Fraction to decimal
9. B (Number) Percent
10. D (Number) Fraction
11. D (Number) Percent
12. B (Number) Profit
13. B (Number) Ratio

14. A (Patterns) Preservation of equality
15. C (Patterns) Identify expression
16. B (Patterns) Projections
17. B (Patterns) Problem solving
18. C (Shape & Space) Circumference
19. C (Shape & Space) Area
20. B (Shape & Space) Angle bisector
21. A (Shape & Space) Translations
22. D (Shape & Space) Area of a circle
23. D (Statistics & Probability) Circle graph
24. C (Statistics & Probability) Mode
25. B (Statistics & Probability) Probability

26.

50¢	75¢	$5.00
7	2	
4	4	
1	6	
10	0	

1	2	3	4
- Attempts at trying to use a strategy	- 1 or 2 correct combinations - Didn't carry out work far enough to obtain entire solution - Correct answer, no work shown	- 3 correct combinations - Appropriate strategies used to solve problems. - Shows work	- 4 correct combinations - Appropriate strategies used to solve problems. - Shows work

27.

Area	P
3 x 12	30m
6 x 6	24m
4 x 9	26m

1	2	3	4
- 1 or 2 solutions with an incorrect area and/or perimeter.	- 1 or 2 correct solutions - Correct answer, no work shown	- 3 or more correct combinations plus 3 more that have P ≥ 35 m	- 3 correct combinations or more if decimal numbers used - Appropriate strategy but copy error or computation error

28. Blue
    Yellow
    Red
    Green
    Purple

    BY, BR, BG, BP,YR
    YG, YP, RG, RP, GP

1	2	3	4
- Attempts at trying to make a combination or use a strategy - Made an attempt to reach a sub-goal	- 1-4 combinations - Didn't carry out work far enough to obtain entire solution - Correct answer, no work shown	- 5-9 combinations - May have ignored a condition of the question (e.g., 1 colour)	- 10 correct combinations - Appropriate strategies used to solve problem

29. 25 students

1	2	3	4
- A start beyond just copying that reflects some understanding; or, - The approach would not have led to a correct solution	- An appropriate strategy that could lead to the correct solution but not carried out far enough - Correct answer but no work shown or not understandable - Missed 50 to 59	- Selects an appropriate strategy but ignored a condition of the question (e.g., missed 5 in 150)	- Arrives at a correct solution with a clear strategy

Basic Math Computations

7988	36.17	1314	5.55
8970	98.31	215.2 or 215 r6	$1333.\overline{3}$
-12	-7	$\dfrac{19}{15}$ or $1\dfrac{4}{15}$	-70
19	2	12	55

Quick Scale: Grade 7 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	Exceeds Expectations
Snapshot Note: the snapshot can be used alone as a holistic scale for marking some assignments.	**The work is insufficient. The student is unable to meet basic requirements of the task without close, ongoing assistance. No relevant extension.**	**The work satisfies most basic requirements of the task, but is flawed or incomplete. The student may provide an extension that varies slightly from the original task.**	**The work satisfies basic requirements of the task. If asked, the student can produce a relevant extension or illustration.**	**Work is complete, accurate, insightful, and efficient. The student may volunteer an extension, application, or further illustration of the same mathematical idea.**
Concepts and Applications* - recognizing mathematics - grade-specific concepts, skills - patterns, relationships	- unable to identify concepts or procedures needed - does not apply relevant concepts, skills, and strategies appropriately; major errors or omissions - unable to recognize patterns and relationships	- identifies most concepts and procedures needed; may oversimplify - applies most relevant concepts, skills, and strategies appropriately; some key flaws - with support, can recognize and use some patterns and relationships	- identifies concepts and procedures needed - applies relevant concepts, skills, and strategies appropriately; may be somewhat inefficient - recognizes and uses basic patterns and relationships	- identifies concepts and procedures needed; may offer alternative methods - applies relevant concepts, skills, and strategies accurately and efficiently; thorough - recognizes and uses patterns and relationships; generalizes
Strategies and Approaches - analyze problems - procedures - estimate to verify solutions	- unable to analyze problems - unsystematic and inefficient; unable to follow appropriate strategies - answers or solutions are often improbable (weak estimation skills)	- analyzes problems to develop a plan - follows instructions without adjusting procedures; inefficient - may need reminding to verify results or solutions; estimates are generally logical	- analyzes problems to develop a plan - structures the task into logical steps or stages; may be inefficient - makes logical estimations to verify results or solutions	- analyzes problems to develop an efficient plan; insightful - structures the task efficiently; may find alternative methods - makes relatively accurate estimations to verify results or solutions
Accuracy - recording - calculations - charts, diagrams, graphs	- recording is frequently inaccurate - major calculation errors - major errors in charts, diagrams, and graphs	- some recording errors - some calculation errors, often involving decimals - some errors in charts, diagrams and graphs	- minor recording errors - minor errors in calculations - minor errors in charts, diagrams, and graphs	- accurate and precise records - accurate calculations; may use mental math - makes relatively accurate estimations to verify results or solutions
Representation and Communication - presenting work - constructing tables, charts, diagrams, displays - demonstrating procedures, explaining results	- work is often confusing, with key omissions - often omits required charts, diagrams, and graphs or makes inappropriate choices - explanations are incomplete or illogical; little or no mathematical language	- most work is clear, may omit some information - creates required charts, diagrams, and graphs; some features may be incomplete or inappropriate - explanations are incomplete; little mathematical language	- work is generally clear and easy to follow - creates required charts, diagrams, and graphs appropriately; minor omissions - explanations and demonstrations are complete, in own words, and include some mathematical language	- work is clear, detailed, and well-organized - creates effective charts, diagrams, and graphs - explanations and demonstrations are clear, in own words, and include mathematical language; may be innovative or insightful

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

_____   _____   _____

_____   _____   _____