

NATIONAL ASSESSMENT PROGRAM  
LITERACY AND NUMERACY

YEAR

**9**

**2010**

**NUMERACY  
NON-CALCULATOR**



**STUDENT TO COMPLETE**

Please print your first name and last name below. Write in capital letters.

\_\_\_\_\_

FIRST NAME

\_\_\_\_\_

LAST NAME

9499931

**NOTE TO TEACHER – RECORDING STUDENT PARTICIPATION AND SPECIAL PROVISIONS**

Please ensure your School NAPLAN coordinator has provided you with an **Assessment Roll** for this test. The Assessment Roll must be printed from the School Online Assessment Registration (SOAR) and used to record student participation and special provisions. At the end of the test session, the completed Assessment Roll must be handed to the NAPLAN coordinator so the data can be entered into SOAR.

**Special Provisions**

Tick the appropriate box on the Assessment Roll to identify the special provisions provided for the student for this test and to identify if the student is enrolled in a Support Class.

**Student participation**

Tick the appropriate box on the Assessment Roll if the student was absent, exempt or withdrawn from this test.

**Books for students in these categories MUST NOT BE RETURNED for processing.**

**0:40**

**SESSION 2**

Time available for students to  
complete test: 40 minutes

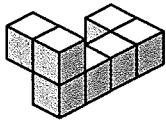
Use 2B pencil  
only



# YEAR 9 NUMERACY (NON-CALCULATOR)



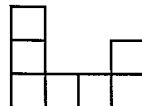
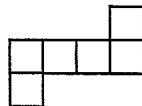
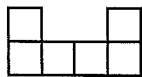
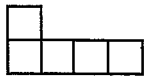
Seven cubes are joined to form the following object.



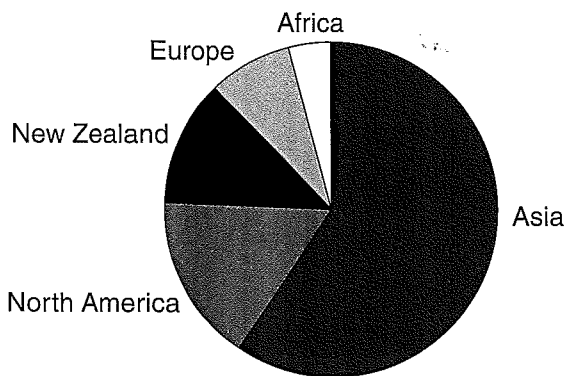
Shade one bubble.



What will the shape look like from above?



The diagram shows the proportion of flights to different international regions for an airline.



One region makes up about 60% of the airline's flights.

Which region is it?

Asia



Europe



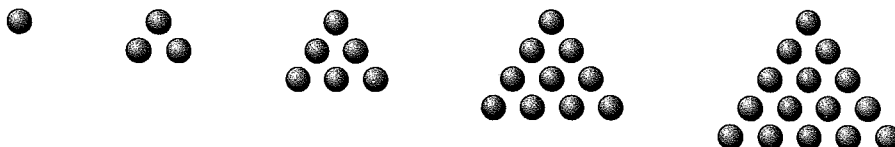
North America



New Zealand



The first five triangular numbers are 1, 3, 6, 10 and 15.



What is the sixth triangular number?

15



19



21



23



# YEAR 9 NUMERACY (NON-CALCULATOR)



Shade one bubble.

4 Tanya recorded temperatures on a mountain over four days.

Which list gives four temperatures arranged in order from lowest to highest?

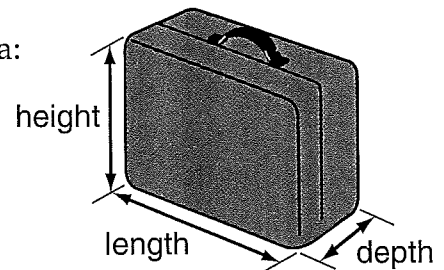
- 0°C, -3°C, 4°C, -5°C
- 3°C, -5°C, 0°C, 4°C
- 5°C, 4°C, -3°C, 0°C
- 5°C, -3°C, 0°C, 4°C

5 An airline calculates the size of bags using this formula:

$$\text{size} = \text{length} + \text{depth} + \text{height}$$

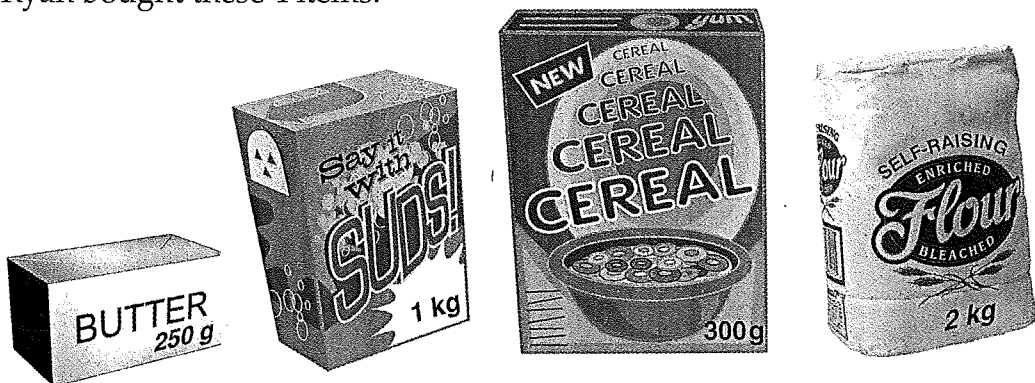
The size limit for the bags is 110 cm.

Whose bag is over the size limit?



	Passenger	Length (cm)	Depth (cm)	Height (cm)
<input type="radio"/>	Jake	30	40	40
<input type="radio"/>	Mary	40	20	45
<input type="radio"/>	Sanjay	50	20	30
<input type="radio"/>	Trudy	60	10	45

6 Ryan bought these 4 items.



The total mass of Ryan's items is closest to

- 3kg
- 4kg
- 8kg
- 9kg

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# YEAR 9 NUMERACY (NON-CALCULATOR)



The picture shows a stone head.



Shade one bubble.

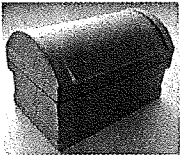


The picture is 3 cm high. The actual head is 60 cm high.

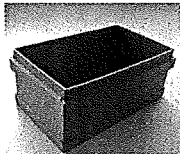
What scale is used in the picture?

- 3 cm represents 20 cm
- 6 cm represents 30 cm
- 1 cm represents 2 cm
- 1 cm represents 20 cm

With the lid on, the mass of this box is 232 grams.



With the lid off, the mass of the box is 186 grams.



What is the mass of the lid?

- 46 grams
- 56 grams
- 144 grams
- 154 grams

A set of traffic lights is red for half the time, orange for  $\frac{1}{10}$  of the time and green for the rest of the time.

For what fraction of the time is the set of traffic lights green?

- $\frac{1}{3}$
- $\frac{2}{5}$
- $\frac{6}{10}$
- $\frac{10}{12}$



# YEAR 9 NUMERACY (NON-CALCULATOR)

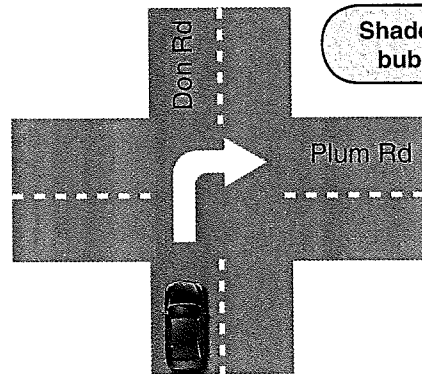


10

A car is travelling **north-east** along Don Road. The car is about to turn right into Plum Road.

In which direction will the car be travelling **after** it turns right?

- north-east
- south-west
- north-west
- south-east



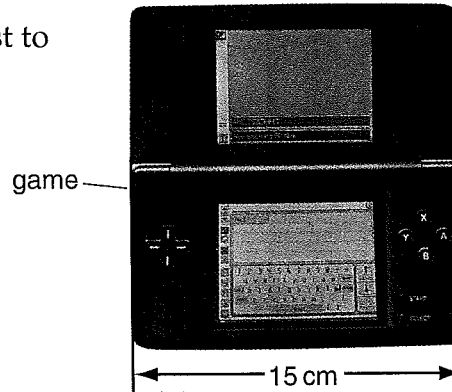
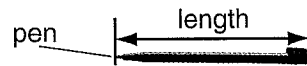
Shade one bubble.

11

John's video game comes with a pen. The width of the game is 15 cm as shown.

Which of these measurements is closest to the length of the pen?

- 5 cm
- 6 cm
- 9 cm
- 12 cm



12

Which metric unit would a builder use to measure the volume of sand in a truck like this?

- cubic metres
- square metres
- cubic centimetres
- square centimetres



13

A closed shape has two parallel sides and two other sides of unequal length.

What is the shape?

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| kite                  | parallelogram         | rectangle             | trapezium             |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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# YEAR 9 NUMERACY (NON-CALCULATOR)



The table shows how the size of computer memory chips has changed over time.

Shade one bubble.

Year	1989	1994	1999	2004	2009	2014
Size (kilobytes)	16	64	256	1024	4096	?

Using this data, what is the best estimate for the size in kilobytes of a computer chip in 2014?

- 5000 kilobytes
- 8000 kilobytes
- 16000 kilobytes
- 32000 kilobytes

Which of these is the longest distance?

- 0.1203 km
- 123 m
- 1230 cm
- 12030 mm

This sign shows times that a car can be parked for up to 1 hour.

At which of these times is it permitted to park for 2 hours?

- 11:00 am Thursday
- 4:00 pm Thursday
- 11:00 am Saturday
- 4:00 pm Saturday



Claire thinks of a number,  $n$ .  
She multiplies the number by itself.  
She then halves that answer and subtracts 10.

Which expression shows what Claire did?

- $\frac{2n - 10}{2}$
- $\frac{2n}{2} - 10$
- $\frac{n^2}{2} - 10$
- $\frac{n^2 - 10}{2}$




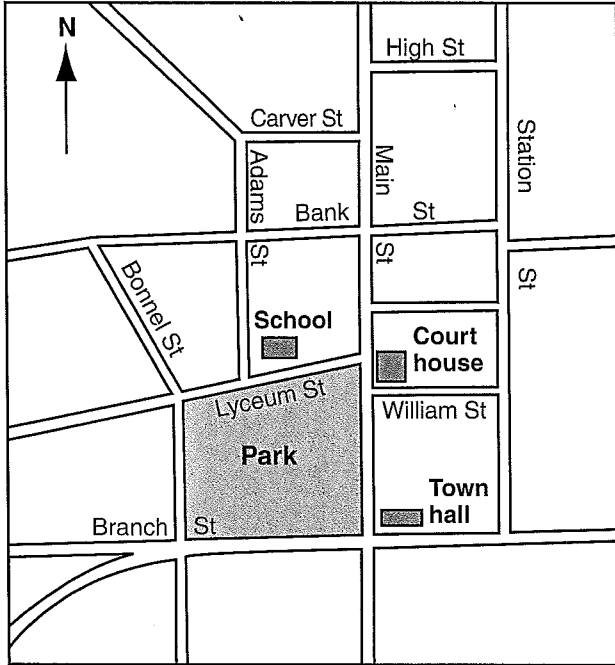
# YEAR 9 NUMERACY (NON-CALCULATOR)



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Jill lives in a street that runs directly north-south.  
Her house is north of the park and west of the school.

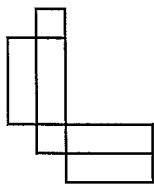
Shade one bubble. 



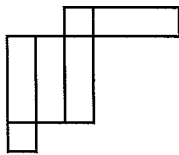
What street does Jill live in?

- Adams St     
  Bonnel St     
  Station St     
  Main St

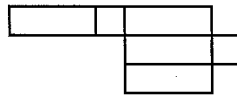
19



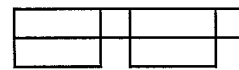
P



Q



R



S

Only two of these nets form a closed rectangular prism.

Which two nets are they?

- P and R  
 P and Q  
 Q and R  
 R and S

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# YEAR 9 NUMERACY (NON-CALCULATOR)



In a gym class, 29 students took turns jumping. Pete recorded the height each student jumped.

Shade one bubble.

Height (cm)

3	2 4
4	1 5 6
5	2 4 4 8 9
6	1 1 3 4 5 6 6 8 9
7	2 2 5 7 8
8	3 5 5
9	1 2

Key: 5|2 means 52

What is the median height?

63 cm

64 cm

65 cm

66 cm

In these expressions,  $p$  and  $q$  are positive whole numbers and  $r$  is a positive number less than 1.

Which expression gives the **largest** value?

$(p + q) \times r$

$(p + q) \div r$

$(p - q) \times r$

$(p - q) \div r$

A square field has an area of  $4000 \text{ m}^2$ .

The length of one side is between

20 m and 24 m.

40 m and 44 m.

60 m and 64 m.

200 m and 204 m.





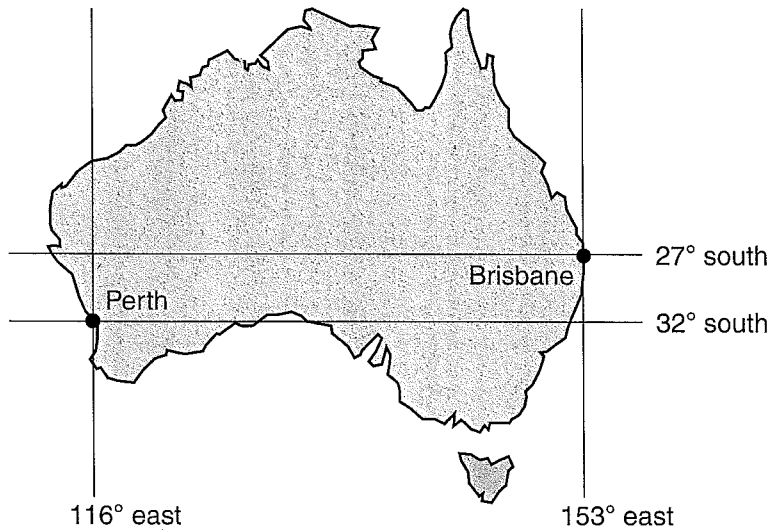
# YEAR 9 NUMERACY (NON-CALCULATOR)



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Brisbane has the latitude and longitude of  $27^\circ$  south,  $153^\circ$  east.

Shade one bubble.



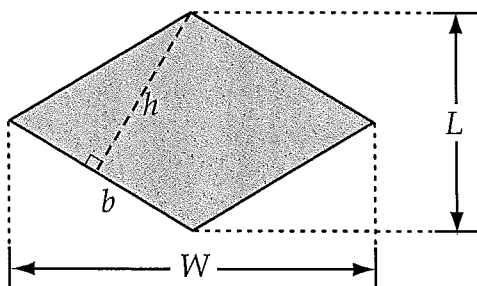
A ship has a latitude and longitude that is  $10^\circ$  north and  $5^\circ$  west of Brisbane.

What is the position of the ship?

- $17^\circ$  south,  $148^\circ$  east
- $17^\circ$  south,  $158^\circ$  east
- $37^\circ$  south,  $148^\circ$  east
- $37^\circ$  south,  $158^\circ$  east

24

This diagram shows four lengths of a rhombus of side length  $b$ .



Which equation must be true?

$2hb = LW$

$2hW = Lb$

$hb = 2LW$

$hW = 2Lb$



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# YEAR 9 NUMERACY (NON-CALCULATOR)



The relationship between two variables  $x$  and  $y$  is shown in the table.

Shade one bubble.

$x$	0	-1	-2	-3
$y$	1	3	9	19

Which equation best describes the relationship between  $x$  and  $y$ ?

$y = 1 - 2x^2$

$y = 2x + 1$

$y = 2x^2 + 1$

$y = 1 - 2x$





The population of India is approximately  $10^9$  people.

The population of Mexico is approximately  $10^8$  people.

Approximately how many **more** people live in India than Mexico?

10 million

90 million

100 million

900 million





This Ferris wheel turns at a constant speed.

It takes 4 minutes to turn through a complete circle.

Write your answer in the box.



What angle does the Ferris wheel turn through in 90 seconds?

 °

Ben has 2 identical pizzas.

He cuts one pizza equally into 4 large slices.

He then cuts the other pizza equally into 8 small slices.

A large slice weighs 32 grams more than a small slice.

What is the mass of **one** whole pizza?

grams



# YEAR 9 NUMERACY (NON-CALCULATOR)



29

The height of a door is 210 cm.

Darren is  $\frac{5}{6}$  of the height of the door.

What is Darren's height?

cm

Write your answer  
in the box.



30

Alex collected some eggs from his hens.

Exactly 35% of the eggs were brown.

What is the smallest total number of eggs that he could have collected?

31

Helen's office has a security alarm.

To turn it off Helen has to type her 4-digit code into this keypad.

Helen's code is 0051.

Including Helen's code, how many different 4-digit codes are possible?

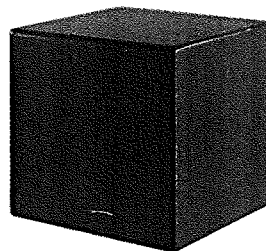


32

The total surface area of a cube is  $600 \text{ cm}^2$ .

How long is an edge of the cube?

cm



## STOP – END OF TEST

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