NATIONAL ASSESSMENT PROGRAM LITERACY AND NUMERACY

NUMERACY
CALCULATOR ALLOWED

YEAR 9

2009

150_152 9N

1053064 5

FIRST NAME: _____

LAST NAME: _____

Date of Birth: _____/_____/_____   GENDER: _____

SOUTH SYDNEY HIGH SCHOOL

530_8545

5308545 4

STUDENT TO COMPLETE

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

FIRST NAME   LAST NAME

TEACHER TO COMPLETE

Please indicate if any of the following apply for this test session. The student was

○ absent   ○ exempt   ○ withdrawn   ○ sanctioned abandonment

Books for students in these categories MUST NOT be returned for processing.

Please indicate if student received special provisions to complete this test session.

The student accessed the following special provisions:

○ Large Print   ○ Braille   ○ Assistive technology   ○ Oral sign support

○ Adjustable furniture   ○ Separate supervision   ○ Extra time   ○ Scribe

○ Other (specify) [_____]   ○ Reader

The student is enrolled in a Support Class: ○ yes

0:40 SESSION 1   Time available for students to complete test: 40 minutes   Use 2B pencil **only**

PRACTICE QUESTIONS

P1   50, 100, 150, 200, 250, [?]   Shade one bubble.

Which number comes next in this sequence?

251   260   300   350
○   ○   ○   ○

P2   Jim gets paid $10 per hour.
He worked for 5 hours.

How much did Jim earn?

Write your answer in the box.

$ [_____]

P3 $1 = 100 cents

Complete the table.

$	cents
1	100
2	200
5	

P4   Write one half as a fraction.

Write your answer in the boxes.

[ ]

[ ]

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1
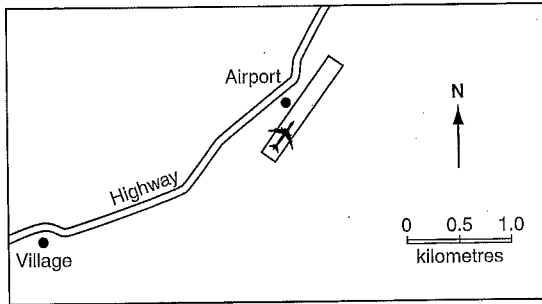
In what direction is the plane at the Airport pointing?

- ⬭ North-East
- ⬭ North-West
- ⬭ South-East
- ⬭ South-West

Shade one bubble.

2 Jane bought a packet of 12 cards for $15.00.

The average price of a card is

| $0.80 | $1.25 | $1.80 | $3.00 |
| ⬭ | ⬭ | ⬭ | ⬭ |

3 Two places are 4.7 cm apart on a map.
On the map 1 cm represents 5 km.

What is the actual distance between the two places?
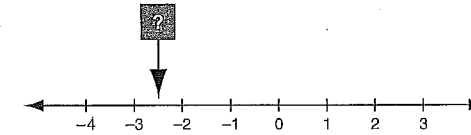
| 1.06 km | 9.4 km | 23.5 km | 47 km |
| ⬭ | ⬭ | ⬭ | ⬭ |

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4 The ratio of William's age to Laura's age is $3:2$.
William is 18 years old.

How old is Laura?

| 2 | 6 | 12 | 27 |
| ⬭ | ⬭ | ⬭ | ⬭ |

Shade one bubble.

5

Write your answer in the box.

The arrow points to a position on the number line.

What number is at this position? ⬚

6

Shade one bubble.

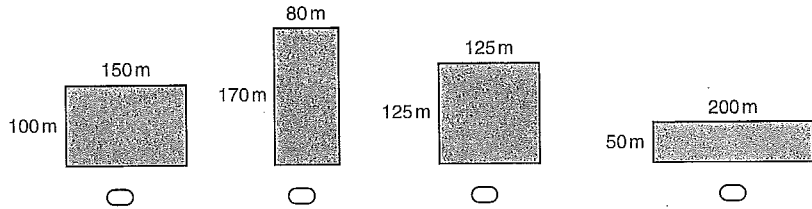| Place	Population
Stanford	4 284 379
Metville	3 692 592
Bayview	1 763 132
Packtown	1 445 078
Anfield	1 146 119
Hunter	205 566
Cranbrook	333 940
Dunston	14 368

How many **more** people live in Bayview than Dunston **and** Cranbrook combined?

| 348 308 | 171 976 | 1 414 824 | 1 429 192 |
| ⬭ | ⬭ | ⬭ | ⬭ |

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7 A farm has 4 paddocks.

Shade one bubble.

Which paddock has the largest area?

80 m

150 m

170 m

125 m

100 m

125 m

200 m

50 m

◯　　　◯　　　◯　　　◯

8 A water tank has a capacity of 6.25 kilolitres.

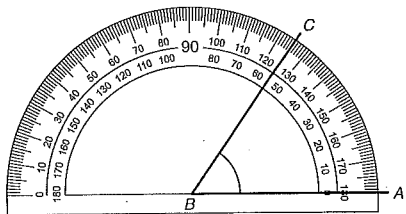How many **litres** does the water tank hold when it is full?

625　　　6025　　　6250　　　62 500

◯　　　◯　　　◯　　　◯

9 A recipe requires $\frac{3}{4}$ cup of olive oil.

Kay makes double the recipe.

How many cups of olive oil does she use?

$\frac{6}{8}$　　　$\frac{4}{3}$　　　$1\frac{1}{4}$　　　$1\frac{1}{2}$

◯　　　◯　　　◯　　　◯

10

Write your answer in the box.

What is the size of angle ABC? ☐ °

11 Sam is building a wooden fence that is 4.8 metres long.
He is using planks that are all 0.12 metres wide.
There are no gaps between the planks.

Shade one bubble.

4.8 m

plank　　　(not to scale)
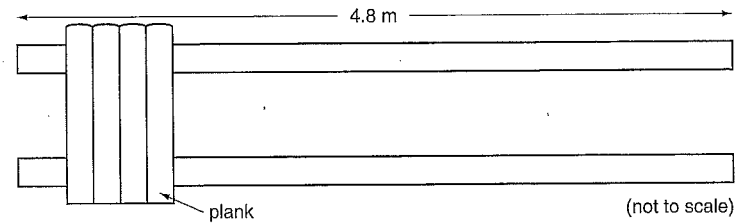
How should Sam calculate how many planks he will need altogether?

◯　4.8 ÷ 0.12
◯　0.12 ÷ 4.8
◯　4.8 × 0.12
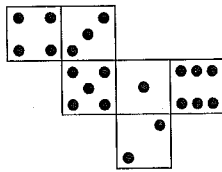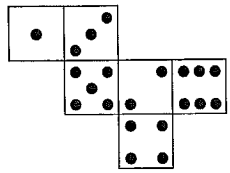◯　4.8 − 0.12

12 $45 \times \blacklozenge = 18$

What is the value of $\blacklozenge$?

$\frac{2}{5}$　　　$\frac{3}{5}$　　　$\frac{5}{2}$　　　$\frac{5}{3}$

◯　　　◯　　　◯　　　◯

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13 Opposite faces on a standard die always add up to 7.

Which is a correct net for a standard die?

○

○

○

○

14

100°

120°

(not to scale)

$x°$

150°

110°
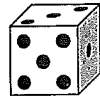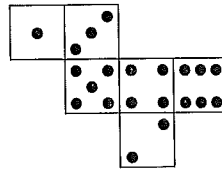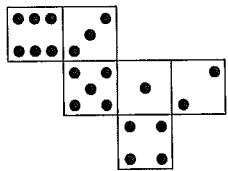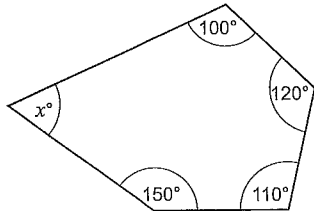
What is the value of x?

20	60	80	120
○	○	○	○

15 Zoe bought a bike on sale at 15% off the original price.
The original price was $420.

How much did Zoe pay for the bike?

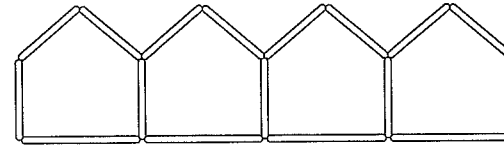| $63	$357	$378	$405
○	○	○	○

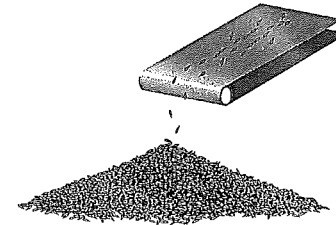© MCEETYA 2009

16 Sticks are used to make this pattern of pentagons.

In this pattern the rule for the number of sticks is

○ 5 × number of pentagons.

○ 4 × number of pentagons.

○ 5 × number of pentagons − 1.

○ 4 × number of pentagons + 1.

17 When grain falls off a conveyor belt it makes a cone.

The volume, V, of the cone is given by the rule $V = \dfrac{\pi r^2 h}{3}$,

where r is the radius of the cone in metres and h is the height in metres.

When $r = 10$ and $h = 5$, the volume of the cone is closest to
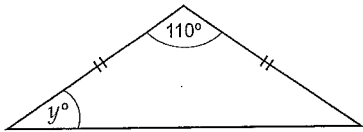
52 m³	105 m³	268 m³	524 m³
○	○	○	○

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18

Write your answer in the box.

What is the value of y?

19

$y = 2x - 1$

$y = 3x + 2$

Shade one bubble.

Which value of x satisfies both of these equations?

$x = -3$ ⬭ $x = -1$ ⬭ $x = 1$ ⬭ $x = 3$ ⬭

20 Which of these are always equal in length?

⬭   the opposite sides of a trapezium
⬭   the opposite sides of a parallelogram
⬭   the diagonals of a trapezium
⬭   the diagonals of a parallelogram

21 A satellite dish has diameter D and depth d.

The focal length of the dish, f, is given by the rule $f = \dfrac{D^2}{16d}$.
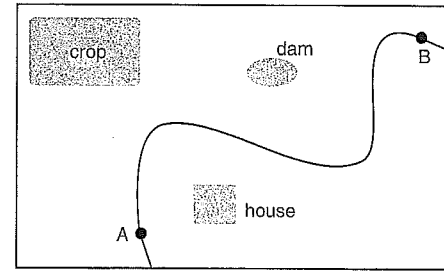
When $D = 8$ and $f = 0.4$, the value of d is

0.4 ⬭   0.1 ⬭   2.5 ⬭   10 ⬭

22

Scale: 1 cm represents 600m

Shade one bubble.

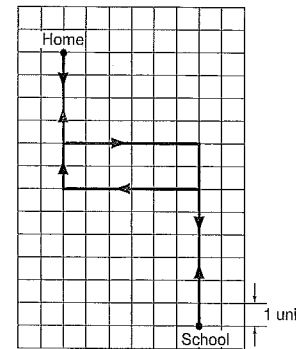The distance on the map from A to B along the road is 9 cm.

How long will it take to walk from A to B along the road at a speed of 4 kilometres per hour?

⬭   1 hour 21 minutes
⬭   1 hour 35 minutes
⬭   13 hours 5 minutes
⬭   13 hours 30 minutes

23 This is a map of the roads Jordan uses to travel to and from school.
The map is to scale.

The total distance he travels each day is 900 metres.

What is the scale of the map?

1 unit = 25 m ⬭   1 unit = 35 m ⬭   1 unit = 45 m ⬭   1 unit = 50 m ⬭

24 The daily energy requirement, E (kilojoules), for a person of mass m (kilograms) is calculated using the rule $E = 9m + 8100$.
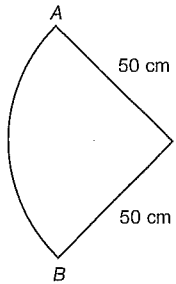
For Gavin, $E = 8865$.

Write your answer in the box.

What is Gavin's mass? _____ kilograms

25 A corner table has the shape of a quarter circle.
The two straight sides are each 50 cm long.

Shade one bubble.
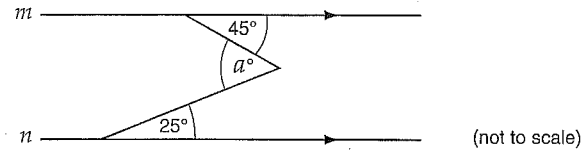

The curved distance from A to B is closest to

50 cm	60 cm	70 cm	80 cm
○	○	○	○

26 What is the value of $2 + 5x - x^2$ when $x = -2$?

-12	-4	8	16
○	○	○	○

27 In the figure below, the lines m and n are parallel.

Write your answer in the box.

(not to scale)

What is the value of a? _____

28 After 15 games, Ben's average (mean) number of points per game was 17.
After 20 games his average had increased to 21.

What was his average number of points per game in the last 5 games?

_____ points per game

29 In a class of 21 students, the ratio of boys to girls is $4:3$.
Three extra boys and one extra girl join the class.

What is the new ratio of boys to girls? [____ : ____]

30 $\frac{2}{7} > \frac{3}{x}$ where x is a positive whole number.
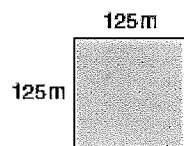
What is the smallest possible value for x? _____

31 Write 2009 as a **product** of its prime factors.

_____

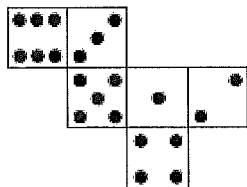**END OF TEST**

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NAPLAN Numeracy (with calculator) Year 9 2009
Quick Answers

1. North-East

2. $1.25

3. 23.5 km

4. 12

5. $-\frac{3}{2}$

6. 1 414 824

7.

8. 6250

9. $1\frac{1}{2}$

10. 55°

11. $4.8 \div 0.12$

12. $\dfrac{2}{5}$

13.

14. 60

15. $357

16. $4 \times$ number of pentagons $+1$.

17. 524 m^3

18. 35

19. $x = -3$

20. the opposite sides of a parallelogram

21. 10

22. 1 hour 21 minutes

23. 1 unit = 25 m

24. 85 kilograms

25. 80 cm

26. -12

27. 70

28. 33 points per game

29. 3:2

30. 11

31. $7 \times 7 \times 41$