



MINISTERIAL COUNCIL ON EDUCATION,
EMPLOYMENT, TRAINING AND YOUTH AFFAIRS

NATIONAL ASSESSMENT PROGRAM
LITERACY AND NUMERACY

NUMERACY

CALCULATOR ALLOWED



YEAR

9
2009



0:40

SESSION 1

Time available for students
to complete test: 40 minutes

Use 2B or HB
pencil only



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meant to be blank.**

YEAR 9 NUMERACY

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.

Write your answer in the box.



How much did Jim earn?

\$

P3 \$1 = 100 cents

Complete the table.

\$	cents
1	100
2	200
5	

P4 Write a fraction equivalent to **one half**.

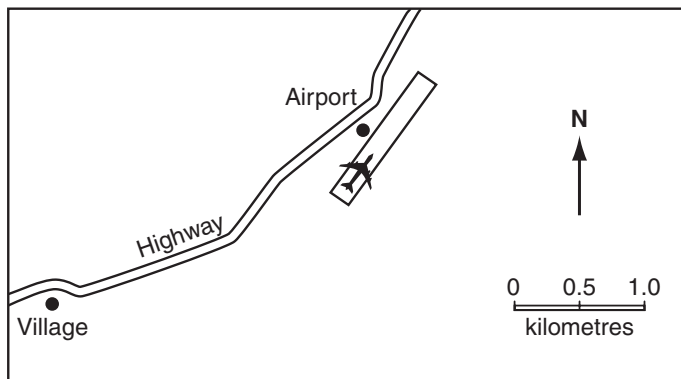
Write your answer in the boxes.



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1



Shade one bubble.

In what direction is the plane at the Airport pointing?

- ☐ North-East
- ☐ North-West
- ☐ South-East
- ☐ South-West

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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Shade one bubble.

2	6	12	27
☐	☐	☒	☐

A horizontal number line with arrows at both ends. It has tick marks labeled -4, -3, -2, -1, 0, 1, 2, and 3. A blue square box containing a question mark (?) is positioned above the tick mark for -2.5, with a black arrow pointing down to the tick mark.

Write your answer in the box.

What number is at this position?

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

Shade one bubble.

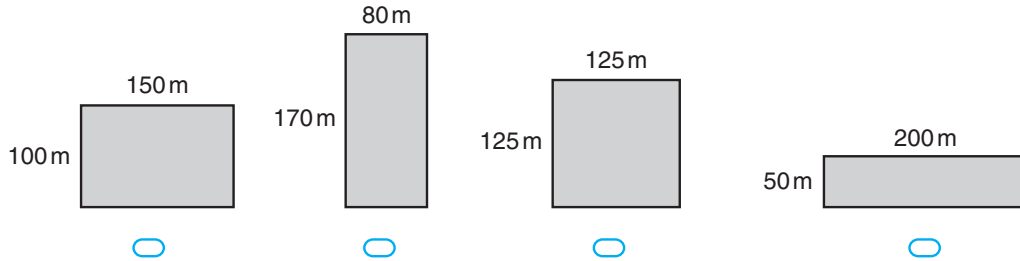
348 308	171 976	1 414 824	1 429 192
			

YEAR 9 NUMERACY

- 7 A farm has 4 paddocks.

Which paddock has the largest area?

Shade one bubble.



- 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 62500

☐ ☐ ☐ ☐

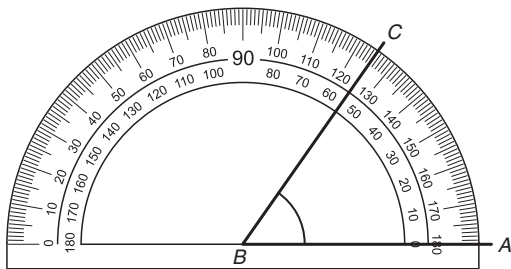
- 9 A recipe requires $\frac{3}{4}$ cup of olive oil.
Kay makes double the recipe.

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?

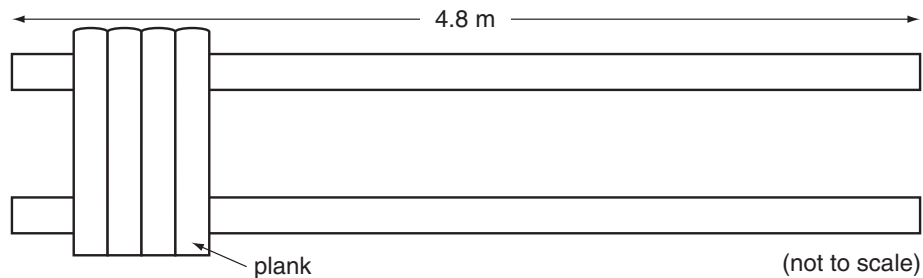
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11

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.



How should Sam calculate how many planks he will need altogether?

- ☐ $4.8 \div 0.12$
- ☐ $0.12 \div 4.8$
- ☐ 4.8×0.12
- ☐ $4.8 - 0.12$

12

$$45 \times \blacklozenge = 18$$

What is the value of $\blacklozenge$?

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

☐

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

☐

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

☐

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

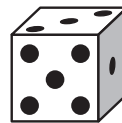
☐

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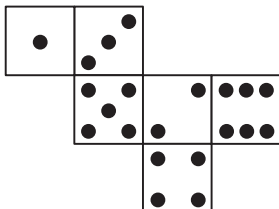
YEAR 9 NUMERACY

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

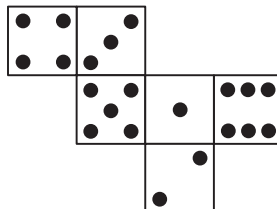
Which is a correct net for a standard die?



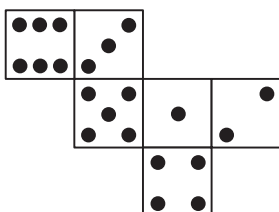
Shade one bubble.



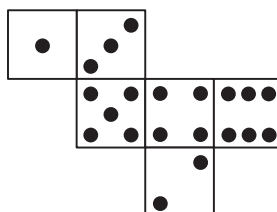
☐



☐

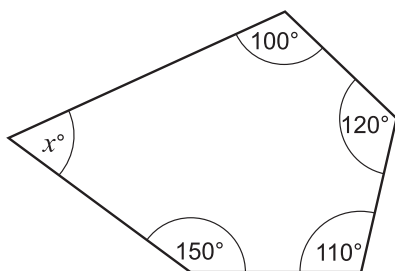


☐



☐

- 14**



(not to scale)

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

☐

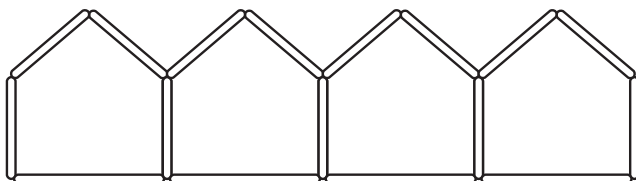
\$405

☐

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- 16** Sticks are used to make this pattern of pentagons.

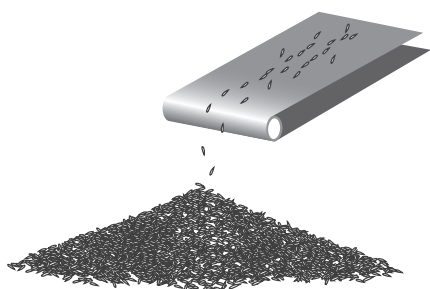
Shade one bubble.



In this pattern the rule for the number of sticks is

- ☐ $5 \times \text{number of pentagons.}$
- ☐ $4 \times \text{number of pentagons.}$
- ☐ $5 \times \text{number of pentagons} - 1.$
- ☐ $4 \times \text{number of pentagons} + 1.$

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



The volume, V , of the cone is given by the rule $V = \frac{\pi r^2 h}{3}$,
where r is the radius of the cone in metres and h is the height in metres.

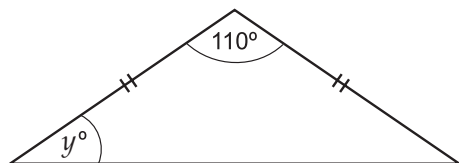
When $r = 10$ and $h = 5$, the volume of the cone is closest to

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 52 m ³ | 105 m ³ | 268 m ³ | 524 m ³ |
| ☐ | ☐ | ☐ | ☐ |

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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 $f = \frac{D^2}{16d}$.

When $D = 8$ and $f = 0.4$, the value of d is

0.4

☐

0.1

☐

2.5

☐

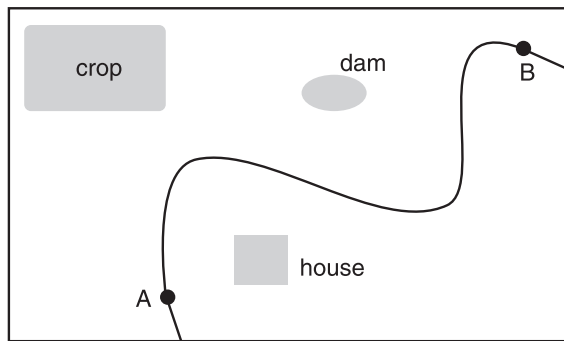
10

☐

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22



Scale: 1 cm represents 600m

Shade one bubble.



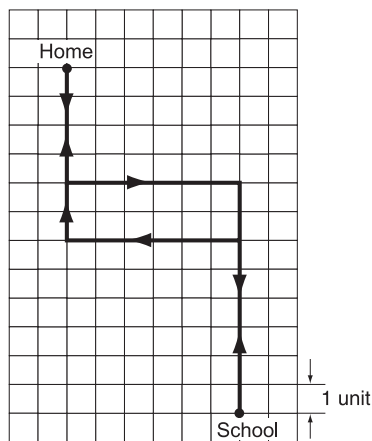
The distance on the map from A to B along the road is 9 cm.

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

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

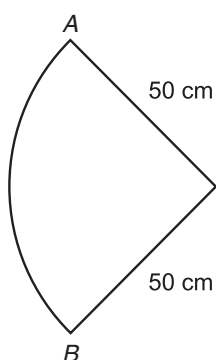
Write your answer in the box.



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

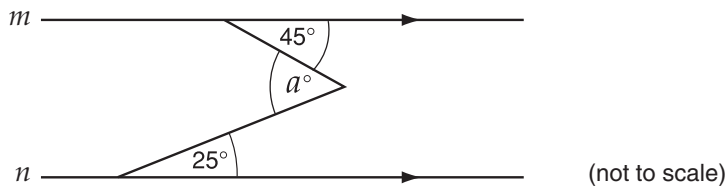
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- 27** In the figure below, the lines m and n are parallel.

Write your answer
in the box.



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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