



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	

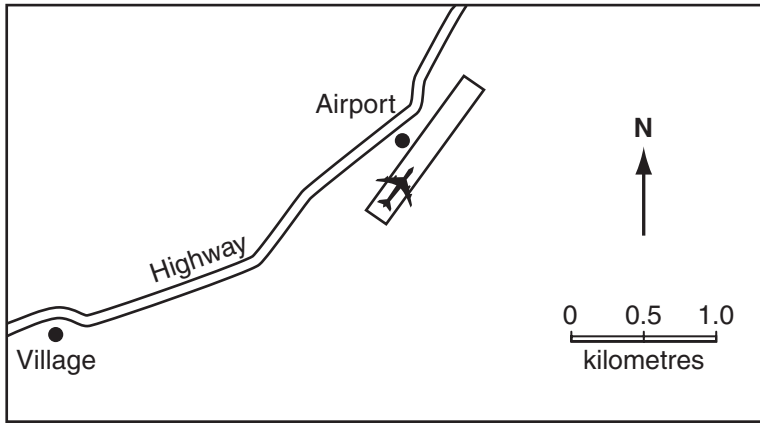
P4 Write a fraction equivalent to **one half**.

Write your answer in the boxes.


/

CALCULATOR ALLOWED

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 |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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 |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

YEAR 9 NUMERACY

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

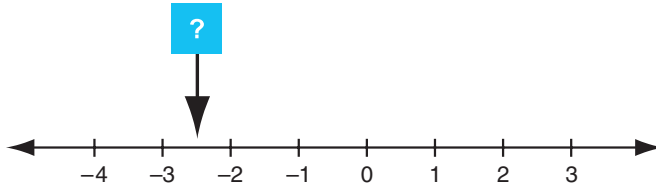
Shade one bubble.



How old is Laura?

- 2 6 12 27
-

5



Write your answer in the box.



The arrow points to a position on the number line.

What number is at this position?

6

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.



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

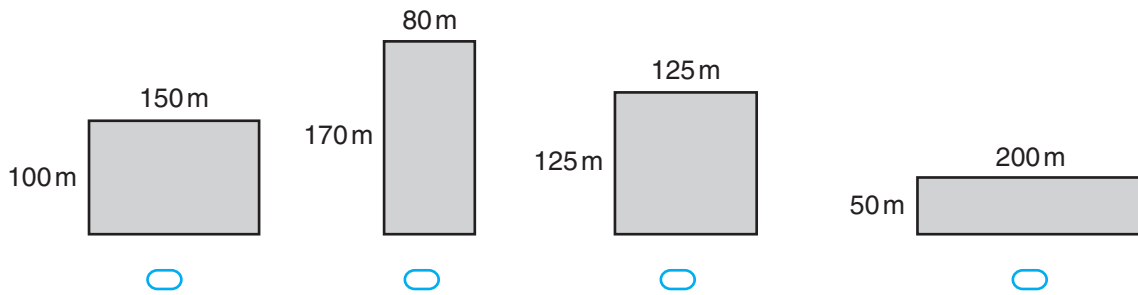
- 348 308 171 976 1 414 824 1 429 192
-

CALCULATOR ALLOWED

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

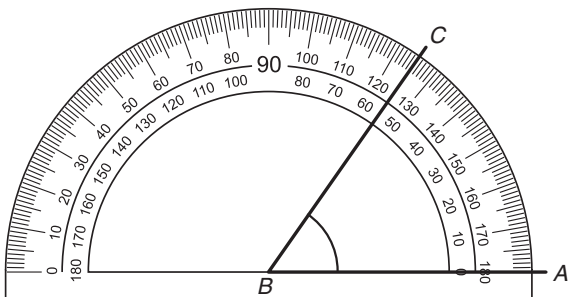
9 A recipe requires $\frac{3}{4}$ cup of olive oil.

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.

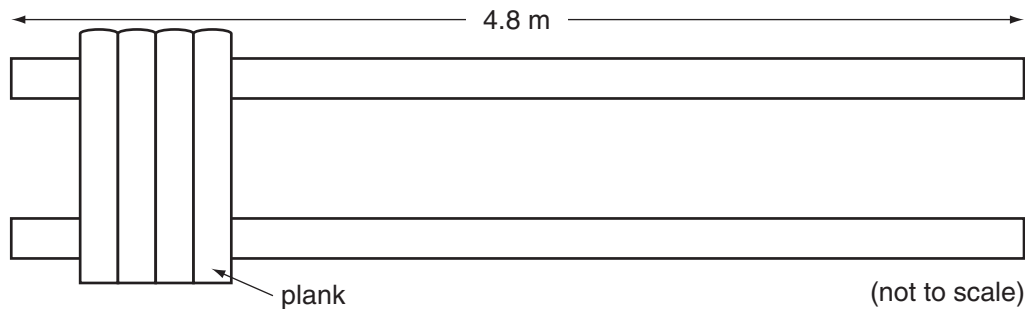


What is the size of angle ABC? °

YEAR 9 NUMERACY

- 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 ?

$\frac{2}{5}$

$\frac{3}{5}$

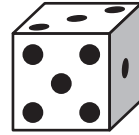
$\frac{5}{2}$

$\frac{5}{3}$

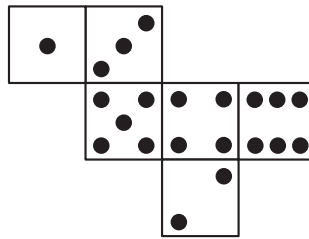
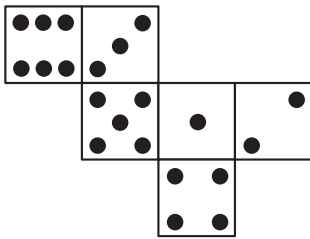
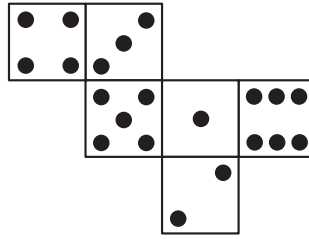
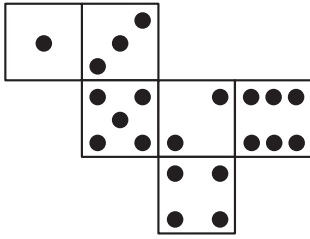
CALCULATOR ALLOWED

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

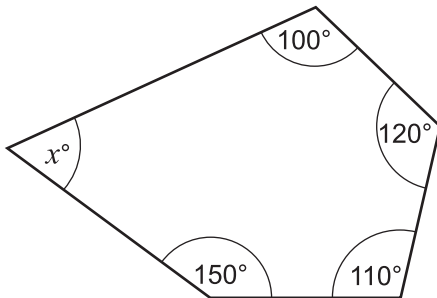
Which is a correct net for a standard die?



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

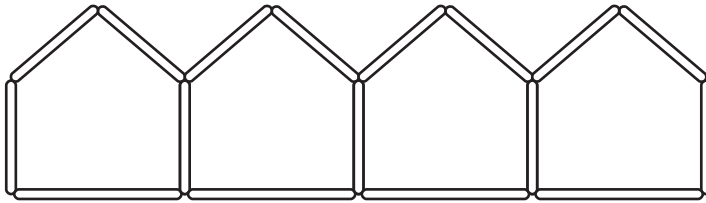
\$357

\$378

\$405

16 Sticks are used to make this pattern of pentagons.

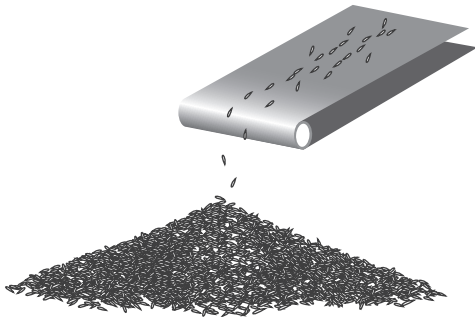
Shade one bubble.



In this pattern the rule for the number of sticks is

- $5 \times$ number of pentagons.
- $4 \times$ number of pentagons.
- $5 \times$ number of pentagons $- 1$.
- $4 \times$ number of pentagons $+ 1$.

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

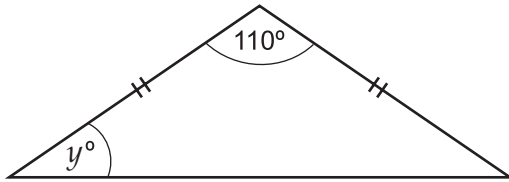



The volume, V , of the cone is given by the rule $V = \frac{\pi r^2 h}{3}$,
 where r is the radius of the cone in metres and h is the height in metres.

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 |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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

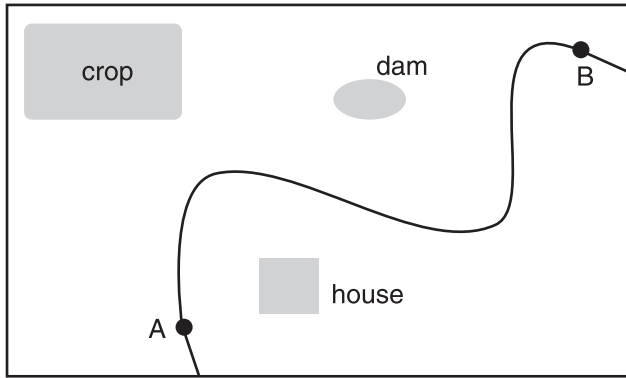
0.4

0.1

2.5

10

22



Shade one bubble.



Scale: 1 cm represents 600m

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

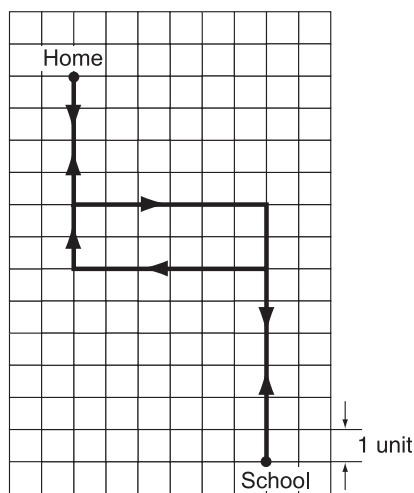
How long will it take to walk from A to B along the road at a speed of 4 kilometres per hour?

- 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



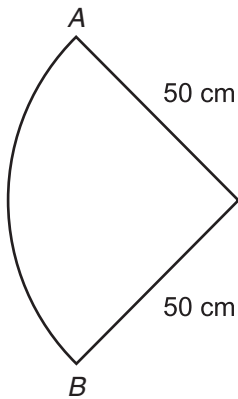
24 The daily energy requirement, E (kilojoules), for a person of mass m (kilograms) is calculated using the rule $E = 9m + 8100$.
For Gavin, $E = 8865$.

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 |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

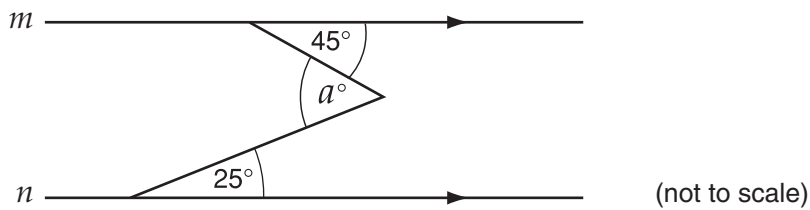
26 What is the value of $2 + 5x - x^2$ when $x = -2$?

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| -12 | -4 | 8 | 16 |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

YEAR 9 NUMERACY

- 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

CALCULATOR ALLOWED