

NATIONAL ASSESSMENT PROGRAM  
LITERACY AND NUMERACY

# NUMERACY NON-CALCULATOR



YEAR

7

2009

0:40

SESSION 2

Time available for students  
to complete test: 40 minutes

Use 2B or HB  
pencil only



## YEAR 7 NUMERACY

- 1 3.25, 3.0, 2.75, 2.5, 2.25, ...

What is the rule to continue this decimal number pattern?

- ☐ increase by 0.5
- ☐ increase by 0.25
- ☐ decrease by 0.5
- ☐ decrease by 0.25

Shade one bubble.



- 2 This pole measures the depth of water in a river.

Approximately how deep is the river?

15 centimetres

☐

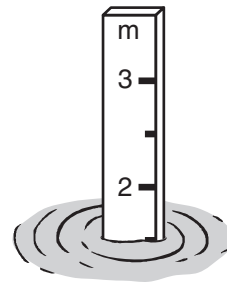
1.05 metres

☐

1.5 metres

☐

15 metres

☐

- 3 Which one of these has the same value as  $12 \times 3$ ?

$$10 + 3 + 2$$

☐

$$10 \times 3 + 2$$

☐

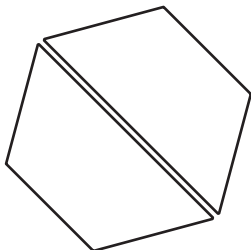
$$10 \times 3 + 3$$

☐

$$10 \times 3 + 6$$

☐

- 4 A regular hexagon is cut in half like this.



The shape of each half is a

rectangle.

☐

pentagon.

☐

hexagon.

☐

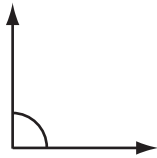
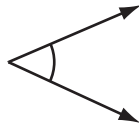
trapezium.

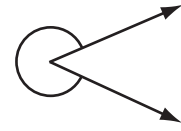
☐

## YEAR 7 NUMERACY

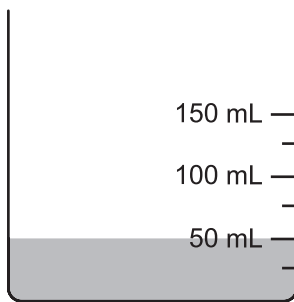
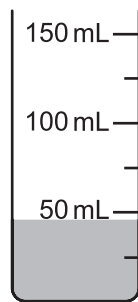
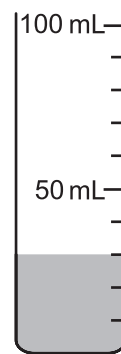
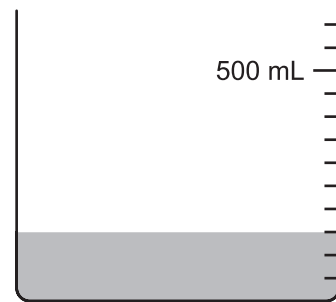
- 5 Which shows a reflex angle?

Shade one bubble.


☐

☐

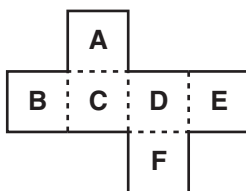
☐

☐

- 6 Which container has the least liquid?


☐

☐

☐

☐

- 7 Hannah folds this net to make a cube.

Write your answer in the box.



Which face is opposite face C?

- 8 A number is multiplied by itself and then 9 is added.  
The answer is 13.

What is the number?

## YEAR 7 NUMERACY

The area of this shaded rectangle is  $98 \text{ cm}^2$ .



7 cm (not to scale)

?

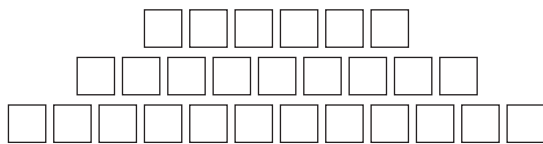
Write your answer in the box.



What is the length of the shaded rectangle?

cm

- 10 The seating plan for a hall makes this pattern.



Row 1

Row 2

Row 3

KEY

☐ 1 seat

Shade one bubble.



If the pattern continues, how many seats are in Row 6?

6

☐

15

☐

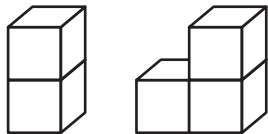
18

☐

21

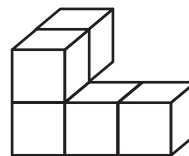
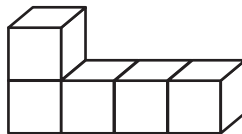
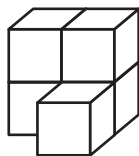
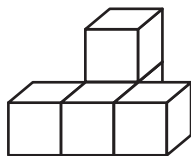
☐

- 11 Kevin made these 2 objects by gluing cubes together face-to-face.



He then joined the 2 objects together.

Which object below could not be made using Kevin's 2 objects?



## YEAR 7 NUMERACY

A tin contains 15 green, 10 red, 7 black and 18 white jelly beans.  
Without looking, Jen takes one jelly bean from the tin.

Shade one bubble.



What is the chance that the jelly bean is red?

$$\frac{1}{2}$$

☐

$$\frac{1}{3}$$

☐

$$\frac{1}{4}$$

☐

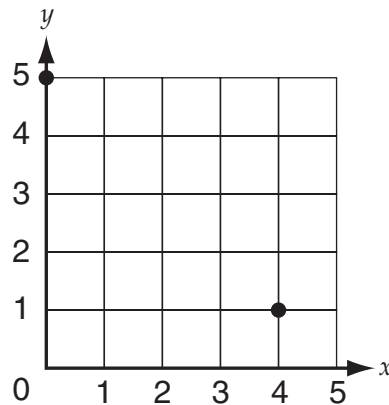
$$\frac{1}{5}$$

☐

- 13 Max is drawing a square on this grid.  
He has drawn two corner points as shown.

Max makes (4, 5) the third corner.

Where will the fourth corner be?



$$(0, 1)$$

☐

$$(1, 0)$$

☐

$$(0, 5)$$

☐

$$(1, 1)$$

☐

- 14 Helen has 24 red apples and 12 green apples.  
What fraction of the apples are green?

$$\frac{1}{2}$$

☐

$$\frac{1}{3}$$

☐

$$\frac{1}{4}$$

☐

$$\frac{1}{12}$$

☐

- 15 A rectangular paddock has a perimeter of 50 metres.  
Each long side has a length of 15 metres.

What is the length of each short side?

metres

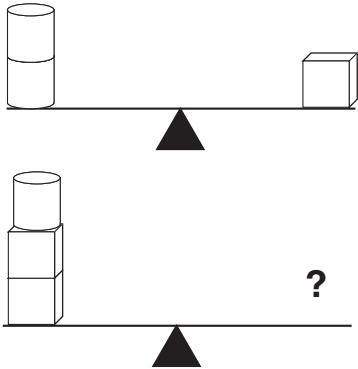
Write your answer in the box.



## YEAR 7 NUMERACY

- 16 The first balance shows that 2 cans have the same mass as 1 block.

Shade one bubble.



How many cans balance 2 blocks and 1 can?

3

☐

4

☐

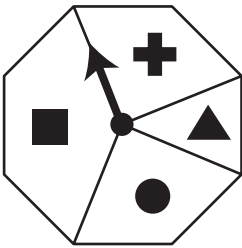
5

☐

6

☐

- 17 Voula spins the arrow 100 times.



Which table is most likely to show her results?

| Shape section | Number of spins |
|---------------|-----------------|
| +             | 15              |
| ▲             | 10              |
| ●             | 15              |
| ■             | 60              |

| Shape section | Number of spins |
|---------------|-----------------|
| +             | 10              |
| ▲             | 25              |
| ●             | 25              |
| ■             | 40              |

| Shape section | Number of spins |
|---------------|-----------------|
| +             | 25              |
| ▲             | 10              |
| ●             | 25              |
| ■             | 40              |

| Shape section | Number of spins |
|---------------|-----------------|
| +             | 25              |
| ▲             | 25              |
| ●             | 25              |
| ■             | 25              |

## YEAR 7 NUMERACY

18

A copier prints 1200 leaflets.  
One-third of the leaflets are on yellow paper and the rest are on blue paper.  
There are smudges on 5% of the blue leaflets.  
How many blue leaflets have smudges?

Shade one bubble.



40

☐

60

☐

400

☐

800

☐

19

This chart shows the number of people that can sit at tables placed end to end in a line.

| Number of tables in the line | 2  | 3  | 4  | 5  |
|------------------------------|----|----|----|----|
| Number of people             | 10 | 14 | 18 | 22 |

What is the minimum number of tables in the line needed to seat 28 people?

6

☐

7

☐

8

☐

9

☐

20

A 3D object has 6 faces. Only 2 faces are squares, the other 4 are rhombuses.  
The object is a

cube.

☐

prism.

☐

pyramid.

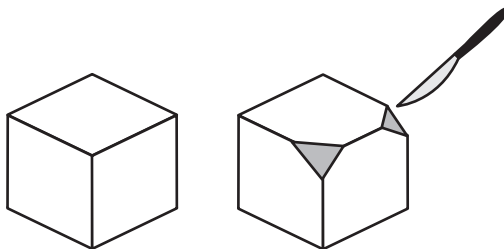
☐

hexagon.

☐

21

Sam cut 2 corners off a cube as shown.



Write your answer in the box.



How many edges does the object now have?

## YEAR 7 NUMERACY

This map shows the time difference between London and Brisbane on the same day.



When it is 5:30 pm on Tuesday in London, what time is it in Brisbane?

- ☐ 7:30 am Wednesday
- ☐ 7:30 am Tuesday
- ☐ 3:30 am Tuesday
- ☐ 3:30 am Wednesday

■ and ▲ stand for numbers.  
■ and ▲ are related by a rule.

| ■ | ▲  |
|---|----|
| 2 | 19 |
| 3 | 29 |
| 4 | 43 |
| 5 | 61 |

What is the rule?

- ☐  $\blacktriangle = 10 \times \blacksquare - 1$
- ☐  $\blacktriangle = 14 \times \blacksquare - 13$
- ☐  $\blacktriangle = 2 \times \blacksquare \times \blacksquare + 11$
- ☐  $\blacktriangle = 4 \times \blacksquare \times \blacksquare + 3$



## YEAR 7 NUMERACY

24

| ROAD DISTANCES IN EUROPE (km) |        |           |        |       |      |
|-------------------------------|--------|-----------|--------|-------|------|
|                               | Athens | Barcelona | Munich | Paris | Rome |
| Athens                        |        | 3250      | 2227   | 2940  | 2450 |
| Barcelona                     | 3250   |           | 1410   | 1110  | 1410 |
| Munich                        | 2227   | 1410      |        | 831   | 925  |
| Paris                         | 2940   | 1110      | 831    |       | 1400 |
| Rome                          | 2450   | 1410      | 925    | 1400  |      |

Shade one bubble.

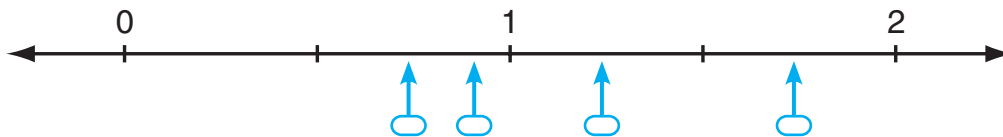


The distance from Athens to Barcelona is about 4 times the distance from

- ☐ Munich to Paris.
- ☐ Munich to Rome.
- ☐ Athens to Paris.
- ☐ Athens to Rome.

25

Which arrow is pointing closest to the location of  $\frac{3}{4}$  on this number line?



26

What fraction is halfway between  $\frac{5}{7}$  and  $\frac{6}{7}$ ?

Write your answer in the boxes.



27

The temperature at the base of a mountain is  $8^{\circ}\text{C}$ .  
The temperature at the summit is  $26^{\circ}\text{C}$  colder than at the base.

Write your answer in the box.

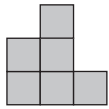


What is the temperature at the summit?   $^{\circ}\text{C}$

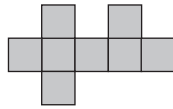
## YEAR 7 NUMERACY

- 28 Alison makes a 3D object out of cubes joined face-to-face. She then draws a front view and a top view of her object.

Shade one bubble.

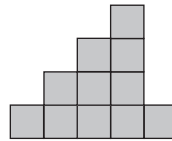
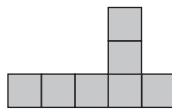
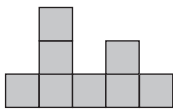


Front view



Top view

Which view below cannot be a side view?



- 29 The dimensions of a large room are double the dimensions of a small room. Both rooms are rectangular prisms. The volume of the small room is 10 cubic metres.

What is the volume of the large room?

- ☐ 20 cubic metres
- ☐ 40 cubic metres
- ☐ 80 cubic metres
- ☐ 160 cubic metres

- 30 Which set of fractions is ordered from smallest to largest?

- ☐  $\frac{1}{2}, \frac{2}{3}, \frac{5}{8}, \frac{7}{12}, \frac{13}{24}$
- ☐  $\frac{1}{2}, \frac{13}{24}, \frac{7}{12}, \frac{5}{8}, \frac{2}{3}$
- ☐  $\frac{1}{2}, \frac{5}{8}, \frac{2}{3}, \frac{13}{24}, \frac{7}{12}$
- ☐  $\frac{2}{3}, \frac{5}{8}, \frac{7}{12}, \frac{1}{2}, \frac{13}{24}$

## YEAR 7 NUMERACY

31

Greg rolled two dice 50 times.

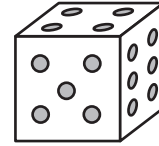
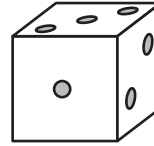
Each time, he added the numbers on the top faces.

His results are shown.

Write your answer  
in the box.



| Sum of numbers<br>on top faces | Number of rolls |
|--------------------------------|-----------------|
| 2                              | 1               |
| 3                              | 4               |
| 4                              | 3               |
| 5                              | 6               |
| 6                              | 7               |
| 7                              | 10              |
| 8                              | 7               |
| 9                              | 5               |
| 10                             | 4               |
| 11                             | 2               |
| 12                             | 1               |
| Total                          | 50              |



What percentage of the rolls resulted in a sum of 7?

 %

32

This clock shows 5 o'clock.



What is the size of the smaller angle between  
the minute and hour hands?

 °

END OF TEST