

NUMERACY NON-CALCULATOR



YEAR

9
2014

SESSION 2

40 mins

Time available for students to
complete test: 40 minutes

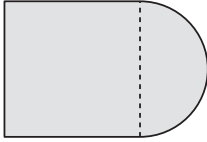
Use 2B or HB
pencil **only**



YEAR 9 NUMERACY (NON-CALCULATOR)



1



This 2D shape is made from

- ☐ a cube and a sphere.
- ☐ a triangle and a circle.
- ☐ a square and an ellipse.
- ☐ a square and a semicircle.

2

Together Luke and Emily saved \$150.

Emily saved twice as much money as Luke.

How much money did Luke save?

\$25

☐

\$50

☐

\$100

☐

\$300

☐

3

The length of a movie is 125 minutes.

Lee starts watching the movie at 6:05 pm.

When will the movie finish?

7:20 pm

☐

7:30 pm

☐

8:10 pm

☐

8:55 pm

☐

4

How many centimetres are in 3.3 metres?

303

☐

330

☐

3030

☐

3300

☐

5

Which of these expressions is equal to m^4 ?

$m + m + m + m$

☐

$m^2 + m^2$

☐

$m \times 4$

☐

$m \times m \times m \times m$

☐

YEAR 9 NUMERACY (NON-CALCULATOR)



6

There were 22 people at a party.

The cost was \$24 per person, plus \$40 extra for the cake.

Which of these shows how to calculate the total cost of the party in dollars?

$$(40 + 24) \times 22$$

☐

$$(22 \times 24) + 40$$

☐

$$22 + 24 + 40$$

☐

$$22 \times 24$$

☐

7

Simon has 720 mL of juice.

He pours equal amounts into each of 9 glasses with no juice left over.

How much juice is in each glass?

80 mL

☐

90 mL

☐

100 mL

☐

120 mL

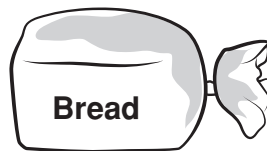
☐

8

Cathy buys 1 litre of milk and a loaf of bread.



\$2.40



\$2.50

She pays with a \$20 note.

How much change should Cathy receive?

\$15.10

☐

\$16.10

☐

\$16.90

☐

\$24.90

☐

9

Which of these is 46.718 rounded to 2 decimal places?

46.70

☐

46.71

☐

46.72

☐

46.81

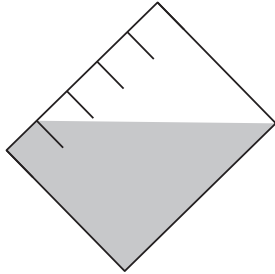
☐

YEAR 9 NUMERACY (NON-CALCULATOR)



10

This cylinder can hold up to 50 mL of water.



How much water is in the cylinder?

10 mL

☐

20 mL

☐

30 mL

☐

40 mL

☐

11

The Year 7 classes at a school collected cans for recycling.

The table shows the mass each class collected.

	Class 7P	Class 7K	Class 7T	Class 7H
Week 1	5.29 kg	5.32 kg	5.3 kg	4.88 kg
Week 2	4.56 kg	4.01 kg	4.99 kg	5.25 kg

Which class collected the greatest total mass?

Class 7P

☐

Class 7K

☐

Class 7T

☐

Class 7H

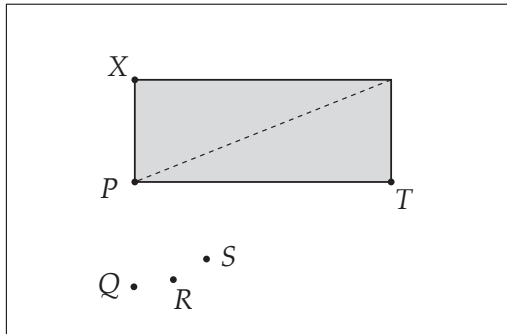
☐

YEAR 9 NUMERACY (NON-CALCULATOR)



12

The shaded rectangle will be folded along the dotted line.



Where will point X move to?

P

☐

Q

☐

R

☐

S

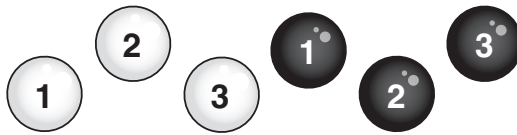
☐

T

☐

13

Jim picks one white ball and one black ball at random from these balls.



He adds the numbers on the two balls he picked to get a total.

Which total is Jim most likely to get?

3

☐

4

☐

5

☐

6

☐

14

Jane has \$5 more than Ben.

Jane correctly writes this fact as an equation using j for her money and b for Ben's.

Which of these could be Jane's equation?

$$j = 5 \div b$$

☐

$$j = 5 - b$$

☐

$$j = b - 5$$

☐

$$j = b + 5$$

☐

YEAR 9 NUMERACY (NON-CALCULATOR)



15

2004 was the first leap year in the 21st century.

When is the 10th leap year in the 21st century?

2010

☐

2014

☐

2040

☐

2044

☐

16

A large block of land is divided into 12 equal-sized blocks as shown.

	Sold		Sold	Sold	Sold
Sold	Sold	Sold	Sold		Sold

What percentage of the large block has been sold?

67%

☐

75%

☐

80%

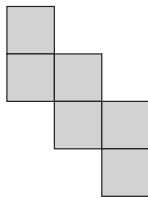
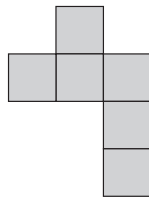
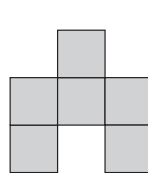
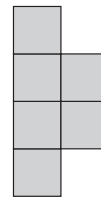
☐

90%

☐

17

Which of these can fold to make a cube?

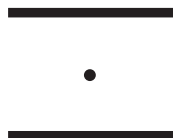
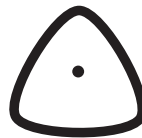
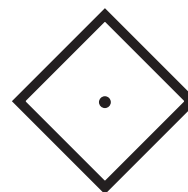

☐

☐

☐

☐

18

Kim drew a point •

She then drew a diagram to correctly show all the points on her page that were exactly 1 cm away from this point.

Which of these was her diagram?

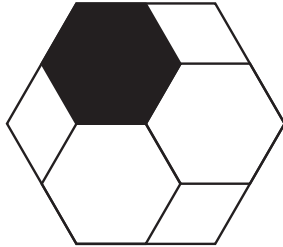

☐

☐

☐

☐

YEAR 9 NUMERACY (NON-CALCULATOR)



19

This shape is made with three regular hexagons and three rhombuses.



What fraction of the shape is black?

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

☐

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

☐

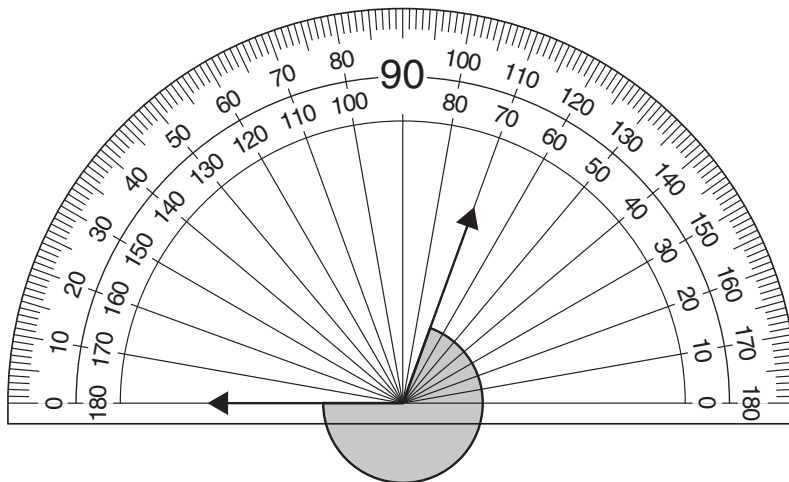
$$\frac{1}{5}$$

☐

$$\frac{1}{6}$$

☐

20



What is the size of the shaded angle?

$$70^\circ$$

☐

$$110^\circ$$

☐

$$250^\circ$$

☐

$$290^\circ$$

☐

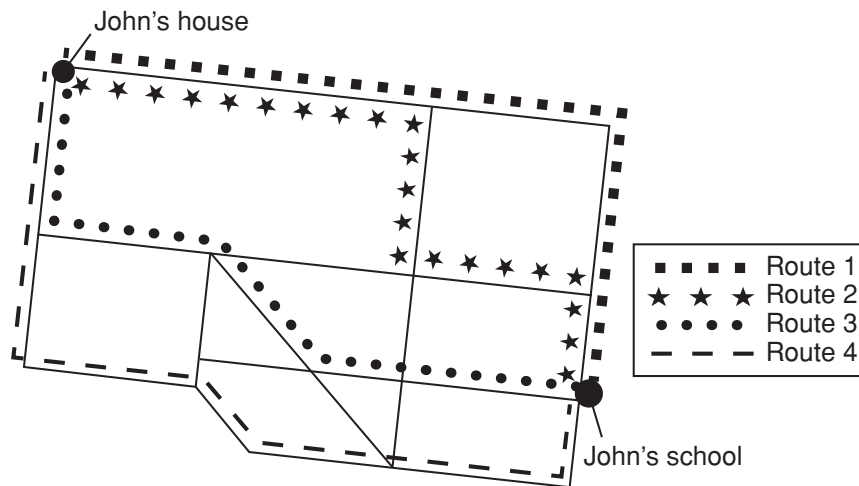
YEAR 9 NUMERACY (NON-CALCULATOR)



21

This map is to scale. It shows four routes from John's house to his school.

The scale of the map is not shown.



Which route is the shortest distance from John's house to his school?

Route 1

☐

Route 2

☐

Route 3

☐

Route 4

☐

22

Sally has 10 hens.

In total they drink about 3 litres of water each day.

Approximately how much water would each hen drink in one week?

0.3 litres

☐

2.1 litres

☐

3 litres

☐

21 litres

☐

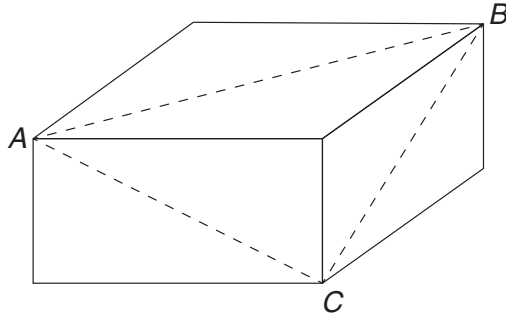
YEAR 9 NUMERACY (NON-CALCULATOR)



23

This prism is half of a cube.

A , B and C are three of its vertices.



What type of triangle is $\triangle ABC$?

isosceles

☐

equilateral

☐

right-angled

☐

scalene

☐

24

Nikki solved the equation $3x - 1 = 4$ correctly.

Which of the following could be two lines of her solution?

$$3x = 3$$

$$x = 0$$

☐

$$3x = 3$$

$$x = 1$$

☐

$$3x = 5$$

$$x = \frac{3}{5}$$

☐

$$3x = 5$$

$$x = \frac{5}{3}$$

☐

25

This table shows the relationship between metric hat sizes and American hat sizes.

Metric	53	54	55	56	57	58	59	60
American	$6\frac{5}{8}$	$6\frac{3}{4}$	$6\frac{7}{8}$	7	$7\frac{1}{8}$	$7\frac{1}{4}$	$7\frac{3}{8}$	$7\frac{1}{2}$

What would the metric hat size be for an American hat size of 8?

YEAR 9 NUMERACY (NON-CALCULATOR)



26

This table shows the number of people at a party.

	Male	Female
Adult	20	10
Child	40	30

What fraction of the females at the party are adults?

$$\frac{10}{20}$$

☐

$$\frac{10}{30}$$

☐

$$\frac{10}{40}$$

☐

$$\frac{10}{100}$$

☐

$$\frac{40}{100}$$

☐

27

Which of these is closest to the value of the missing number in this equation?

$$(\text{ ? } + 59.65) \div 3.14 = 78.5$$

60

☐

85

☐

140

☐

180

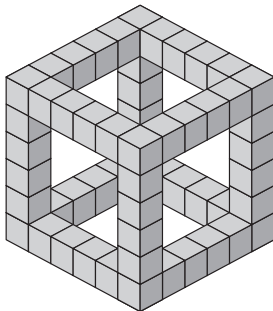
☐

300

☐

28

Mike joined some blocks together to make the edges of a $6 \times 6 \times 6$ cube.



In total he used 56 blocks.

How many blocks would he need to make the edges of a $7 \times 7 \times 7$ cube in the same way?

YEAR 9 NUMERACY (NON-CALCULATOR)



- 29** The fraction $\frac{1}{8}$ equals 0.125 as a decimal.

What does $\frac{1}{16}$ equal as a decimal?

- 30** Half of Caleb's money is equal to one-third of Ellie's money.
Together they have \$35.

How much money does Ellie have?

\$

- 31** Lisa measured the temperature of a substance every 5 minutes.

- The first measurement was -0.8°C .
- The second measurement was 1.8°C .
- For the third measurement, the temperature had increased by double the previous increase.

What was the third measurement?

 $^{\circ}\text{C}$

- 32** Connor travelled from home to a country town.

The 130-kilometre drive took 1 hour 30 minutes.

He returned home by the same route.

The return drive took 1 hour 45 minutes.

What was Connor's average speed for the whole journey?

 kilometres per hour

STOP – END OF TEST