



# Year 9 Numeracy

Non-calculator

Full-length Test 7

Writing time: 40 minutes

Use 2B pencil only

## Instructions

- Write your **student name** in the space provided.
- You must be silent during the test.
- If you need to speak to the teacher, raise your hand. Do not speak to other students.
- Answer all questions using a 2B pencil.
- If you wish to change your answer, erase it very thoroughly and then write your new answer.
- Students are NOT permitted to bring a calculator into the test room.

Student name:

### QUESTION 1

What is 7.08 kilolitres equivalent to?

- ☐ 70.8 L  
☐ 708 L  
☒ 7080 L  
☐ 70 800 L

SHADE ONE BOX



### QUESTION 2

$7 + 2y - 5 - 9y = ?$

- ☐  $-2 - 7y$       ☐  $-2 - 11y$       ☐  $2 - 11y$       ☒  $2 - 7y$

SHADE ONE BOX



### QUESTION 3

Which expression is equal to  $2^3 \times 4^2$ ?

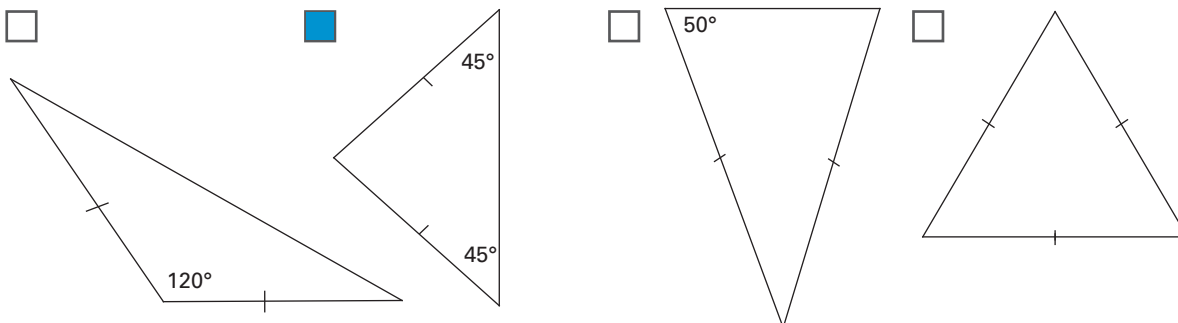
- ☐  $2 \times 3 \times 4 \times 2$   
☐  $2 \times 2 \times 2 \times 3 \times 4 \times 2$   
☐  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 4 \times 4$   
☒  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$

SHADE ONE BOX



### QUESTION 4

Which one of these is a right-angled isosceles triangle?



SHADE ONE BOX



### QUESTION 5

What fraction has the same value as  $3\frac{4}{5}$ ?

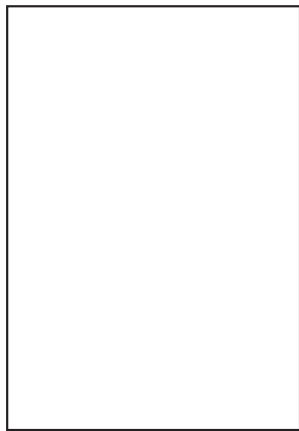
- ☐  $\frac{12}{5}$       ☐  $\frac{17}{5}$       ☐  $\frac{18}{5}$       ☒  $\frac{19}{5}$

SHADE ONE BOX



**QUESTION 6****WRITE YOUR OWN ANSWER**

A rectangle has an area of  $144 \text{ cm}^2$ .



Not to  
scale

8 cm

?

What is the length of the rectangle?

18 cm

**QUESTION 7****SHADE ONE BOX**

What is the value of  $5p^2$  when  $p = -1$ ?

☐ -15

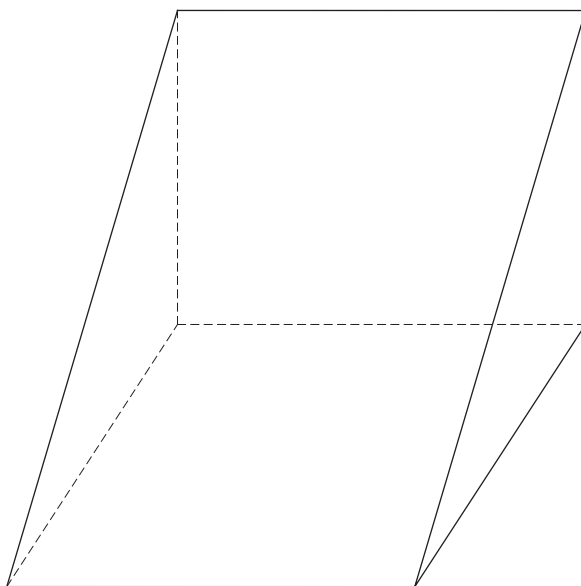
☐ -5

☒ 5

☐ 15

**QUESTION 8****WRITE YOUR OWN ANSWER**

How many edges does this triangular prism have?



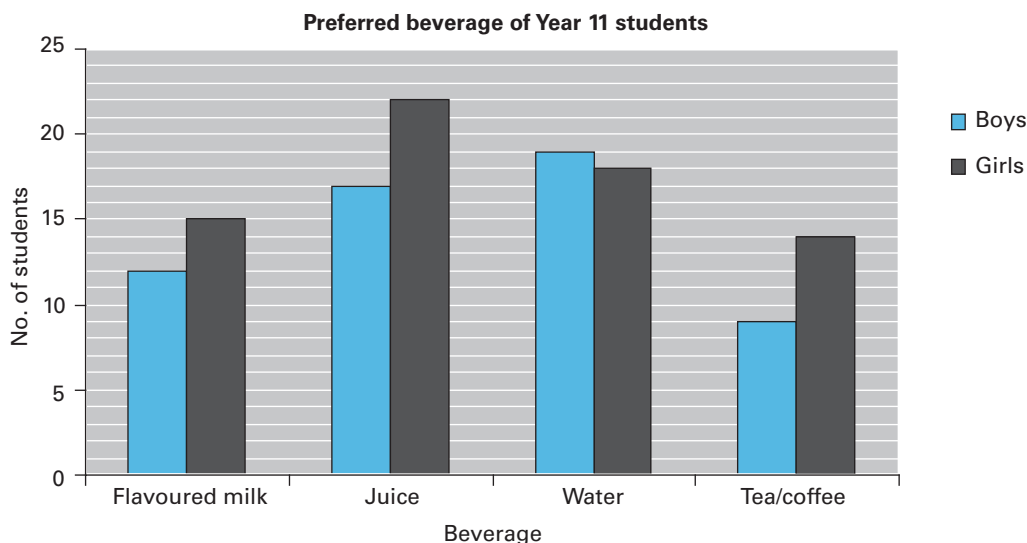
9 edges

### QUESTION 9



WRITE YOUR OWN ANSWER

The graph below shows the preferred beverage of Year 11 students at a certain school.



How many Year 11 students prefer water?

37

### QUESTION 10

SHADE ONE BOX



Which one of the following expressions is equivalent to  $9x + 6$ ?

☐  $2(3x + 2)$

☐  $3(2x + 3)$

☒  $3(3x + 2)$

☐  $9(x + 6)$

### QUESTION 11

SHADE ONE BOX



What is the probability of rolling a number greater than 4 on a standard six-sided dice?

☒  $\frac{1}{3}$

☐  $\frac{1}{2}$

☐  $\frac{1}{4}$

☐  $\frac{3}{8}$

### QUESTION 12

SHADE ONE BOX



Which is the best estimate for  $17 + 46 \times 72 - 39$ ?

☐  $10 + 40 \times 80 - 30$

☐  $20 + 50 \times 80 - 40$

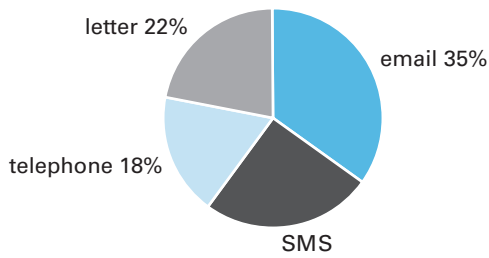
☐  $10 + 40 \times 70 - 30$

☒  $20 + 50 \times 70 - 40$

**QUESTION 13****WRITE YOUR OWN ANSWER**

This pie chart shows the types of messages received by Poppy's Florist in a single day.

**Types of messages received by Poppy's Florist**



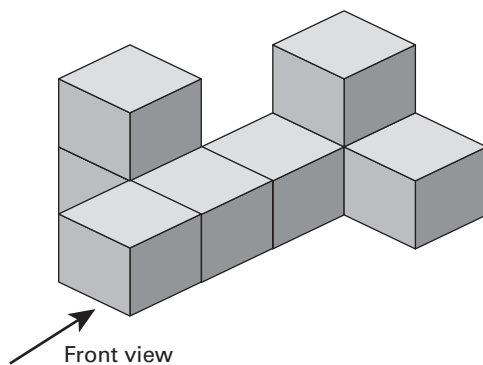
What percentage of the messages to Poppy's Florist were SMS messages?

 %**QUESTION 14****WRITE YOUR OWN ANSWER**

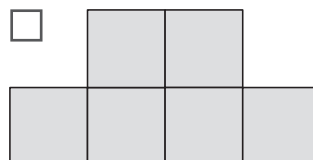
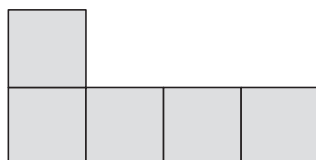
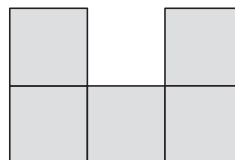
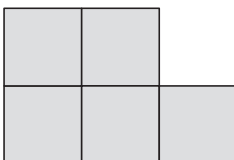
A number is added to itself and then 8 is added. The result is divided by 3. The answer is 10. What is the number?

**QUESTION 15****SHADE ONE BOX**

The object below is made from 8 cubes.

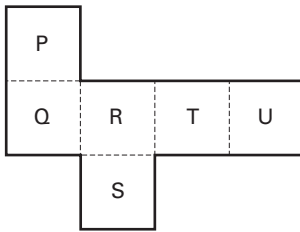


Which one of these shows the front view?



### QUESTION 16

Octavia folds this net to make a cube.



When Octavia constructs the cube, which face is opposite R?

☐ P

☐ Q

☐ S

☒ U

SHADE ONE BOX



### QUESTION 17

Solve for x:  $6x + 1 = 4x + 5$

☒  $x = 2$

☐  $x = 3$

☐  $x = \frac{3}{5}$

☐  $x = 1\frac{2}{3}$

SHADE ONE BOX



### QUESTION 18

$\frac{5}{6} + \frac{2}{3} = ?$

☐  $\frac{7}{6}$

☐  $\frac{7}{9}$

☒  $1\frac{1}{2}$

☐  $1\frac{1}{3}$

SHADE ONE BOX



### QUESTION 19

A meal at a restaurant costs \$62. A goods and services tax of 10 per cent is added to the price. Which calculation will give the new price of the meal?

☐  $62 + 1.1$

☒  $62 \times 1.1$

☐  $62 \times 0.1$

☐  $62 + 0.1$

SHADE ONE BOX



### QUESTION 20

The data in the stem-and-leaf plot below shows the number of drinks sold per hour at a café on a single day.

Stem	Leaf
0	6 8
1	5 5 9
2	4 5 6 6 6
3	1 7

What is the mode of this data?

26

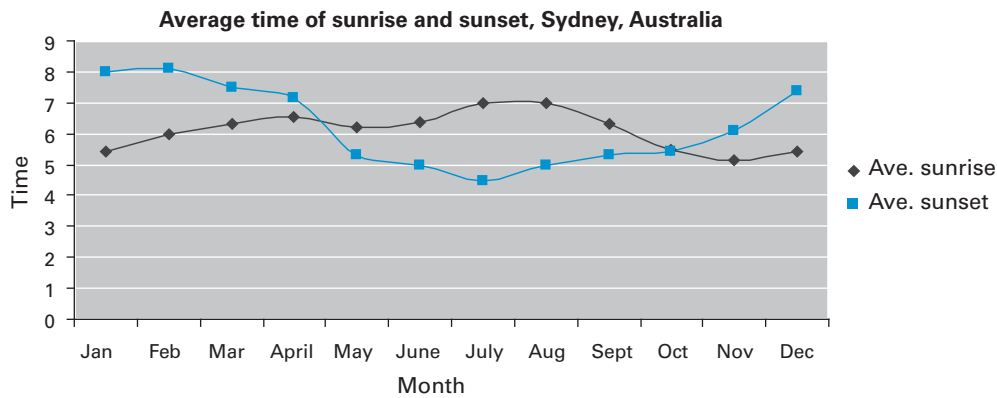


WRITE YOUR OWN ANSWER

### QUESTION 21

The line graphs below show the average sunrise and sunset times each month in Sydney over a twelve-month period.

SHADE ONE BOX



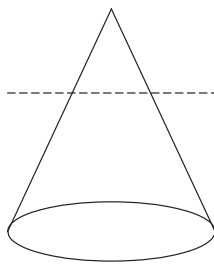
Which of the following statements is correct?

- ☒ In February, the average time when the sun rises is 6.00 a.m.
- ☐ The average time of sunrise is later than 6.00 a.m. for nine months of the year.
- ☐ The average time of sunset is before 6.00 p.m. from May to August only.
- ☐ In December, the average time when the sun sets is 5:30 a.m.

### QUESTION 22

A horizontal cut is made through a cone, as shown below.

SHADE ONE BOX



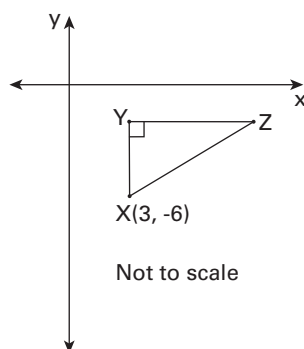
Which shape shows the cross-section made by the cut?



### QUESTION 23

The coordinates of point X are (3, -6).

SHADE ONE BOX



If  $XY \perp YZ$ ,  $XY = 4$  units and  $YZ = 5$  units, what are the coordinates of point Z?

- ☐ (5, -2)      ☐ (2, -5)      ☐ (-2, 8)      ☒ (8, -2)

### QUESTION 24

What does  $\sqrt{150}$  lie between?

- ☐ 10 and 12  
☒ 11 and 13  
☐ 13 and 15  
☐ 50 and 80

SHADE ONE BOX



### QUESTION 25

Phoebe has baggage to be loaded onto an aeroplane. Her bag weighs 30 kg.

Baggage is classified as overweight if it exceeds 23 kg. The cost of overweight baggage involves an airline handling fee of \$40, plus \$35 for each kilogram over the allowable weight.

What is the extra cost Phoebe is charged?

- ☐ \$75      ☒ \$285      ☐ \$315      ☐ \$525

SHADE ONE BOX



### QUESTION 26

A coin is tossed twice. What is the probability of getting a head and a tail in any order?

- ☐  $\frac{1}{8}$       ☐  $\frac{1}{4}$       ☐  $\frac{1}{3}$       ☒  $\frac{1}{2}$

SHADE ONE BOX



### QUESTION 27

<b>a</b>	-5	-2	1	3	7
<b>b</b>	10	7	4	2	-2

The table shown above satisfies which equation?

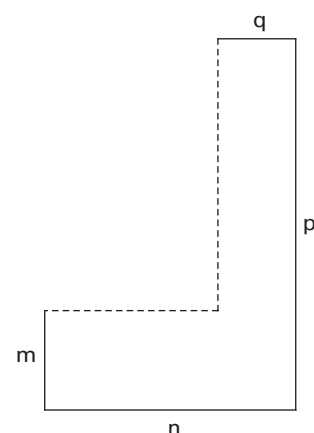
- ☐  $b = a + 5$       ☐  $b = a - 5$       ☐  $b = -5 - a$       ☒  $b = 5 - a$

SHADE ONE BOX



### QUESTION 28

Which expression gives the total length of the dotted lines?



- ☐  $(m - p) + (n - q)$       ☒  $(p - m) + (n - q)$       ☐  $(p - m) - (n - q)$       ☐  $(m + n) - (p + q)$

SHADE ONE BOX



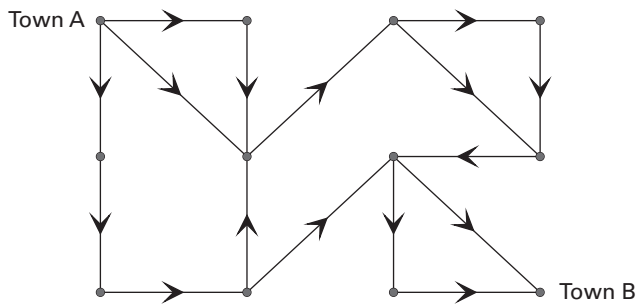


### QUESTION 29

SHADE ONE BOX



In how many ways is it possible to travel from Town A to Town B?



☐ 10

☐ 12

☒ 14

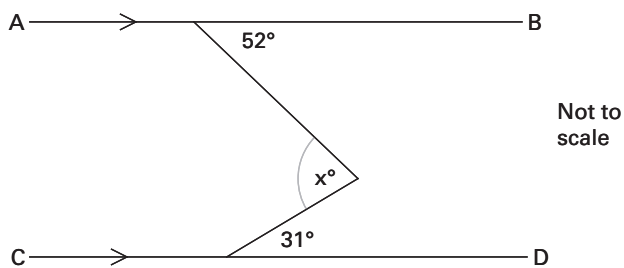
☐ 17

### QUESTION 30



WRITE YOUR OWN ANSWER

In the diagram below,  $AB \parallel CD$ .



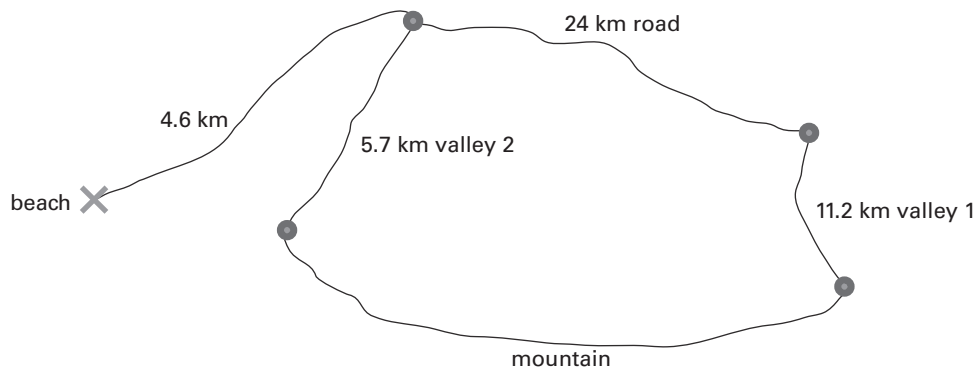
What is the value of  $x$ ?  degrees

### QUESTION 31



WRITE YOUR OWN ANSWER

This diagram shows the course for a 70 km bicycle race. The start and finish are at the beach.



How far is the mountain section?

km

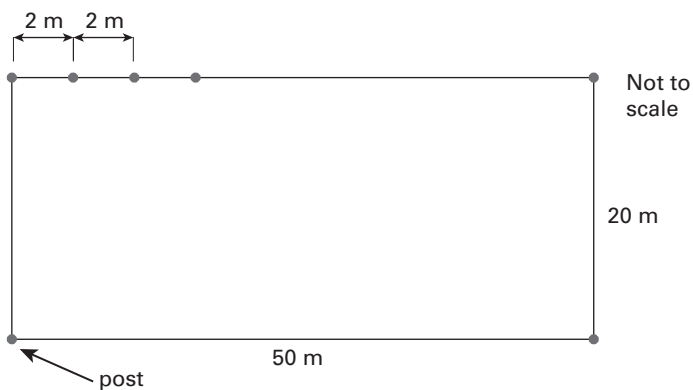
### QUESTION 32



WRITE YOUR OWN ANSWER

A farmer is fencing a rectangular paddock using posts and wire.

He must put a post in every corner of the paddock and the posts must be 2 m apart.



How many posts does the farmer need to fence this paddock?

70

posts