



# Year 7 Numeracy

Calculator allowed

Full-length Test 10

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 thoroughly and then write your new answer.
- Students are permitted to bring a calculator into the test room.

**Student name:**

### QUESTION 1

Which time is the same as that shown on this digital clock?



☒ 3.05 p.m.

☐ 3.05 a.m.

☐ 5.05 a.m.

☐ 5.05 p.m.

SHADE ONE BOX



### QUESTION 2

Another way of writing  $5 \times 5 \times 5 \times 5 \times 5 \times 5$  is?

☐  $5^5$

☒  $5^6$

☐  $6^5$

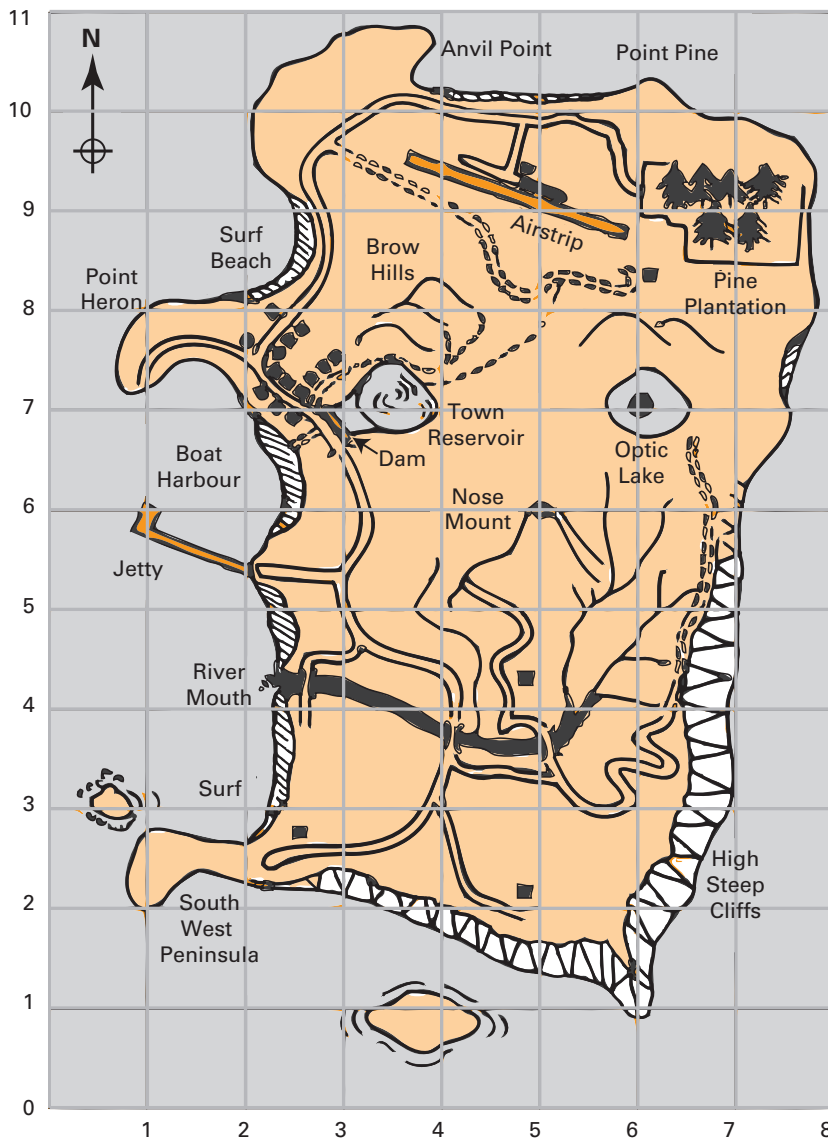
☐  $5^2 \times 5^3$

SHADE ONE BOX



### QUESTION 3

This is a hand-drawn map of Skull Island.



SHADE ONE BOX



What feature is shown at (5, 6)

☐ Optic Lake

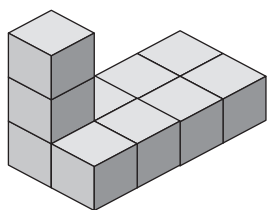
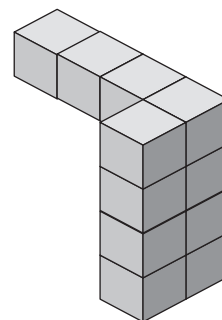
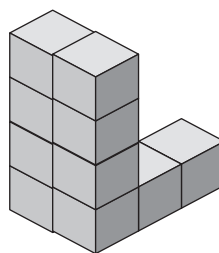
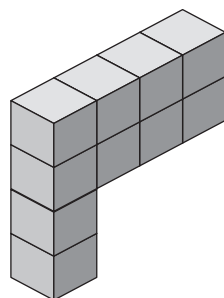
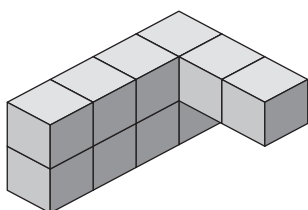
☐ Pine Plantation

☐ Jetty

☒ Nose Mount

#### QUESTION 4

Which of the following shapes is the same as the one below?

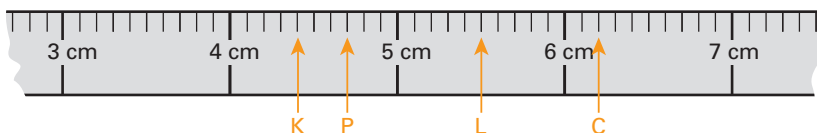

☐
☐
☒
☐


SHADE ONE BOX



#### QUESTION 5

Which letter marks 4.4 cm?


☒ K

☐ P

☐ L

☐ C

SHADE ONE BOX



#### QUESTION 6

What digit is represented by ● in the following?

$$\begin{array}{r} 384 \\ - 1\bullet3 \\ \hline 231 \end{array}$$

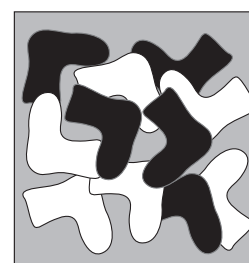
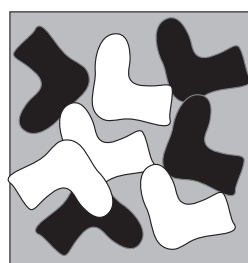
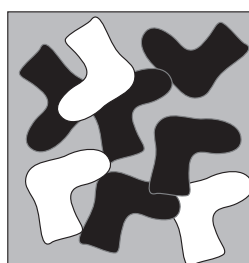
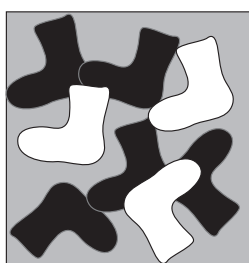
5



WRITE YOUR OWN ANSWER

#### QUESTION 7

John has black and white socks. Getting dressed in the dark, he reaches into the sock drawer. He has an even chance of getting a black sock. Which of the following best represents his sock drawer?

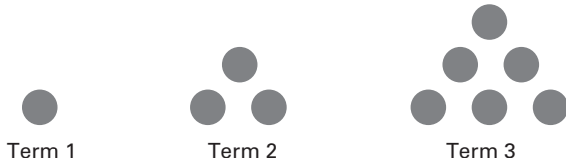
☐
☐
☒
☐


SHADE ONE BOX



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

Alyssa has made the following pattern with counters.



How many counters will she put in the pattern that makes up Term 6?

**QUESTION 9****SHADE ONE BOX**

Calculate the change from \$50 if you buy a cooked chicken at \$9.36, 2 dozen eggs at \$3.45 per dozen and 6.5 kg of apples at \$2.50 per kilogram. Imagine there are still one- and two-cent coins.

- ☐ \$32.51                  ☐ \$28.59                  ☐ \$18.69                  ☒ \$17.49

**QUESTION 10****SHADE ONE BOX**

Liam is a florist and he is making bouquets for the bridesmaids at a wedding. The ratio of white roses to pink roses in each bouquet must be 1:5. If he has five white roses in each bouquet, how many roses does he need altogether?

- ☐ 25                  ☒ 30                  ☐ 35                  ☐ 20

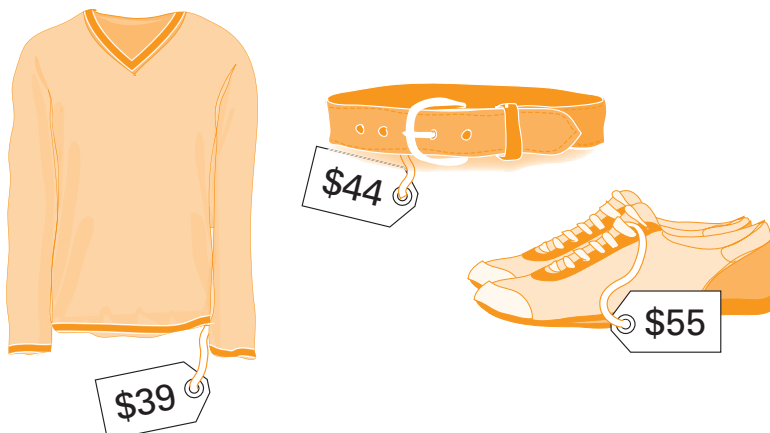
**QUESTION 11****SHADE ONE BOX**

A swimming pool is 12 m by 3.8 m by 4 m. One litre of water occupies  $0.001 \text{ m}^3$ . What is the capacity of the pool?

- ☐ 182.4 L  
☐ 0.1824 L  
☐ 18240 L  
☒ 182400 L

**QUESTION 12****SHADE ONE BOX**

What is the best way to estimate the total cost of these three objects?



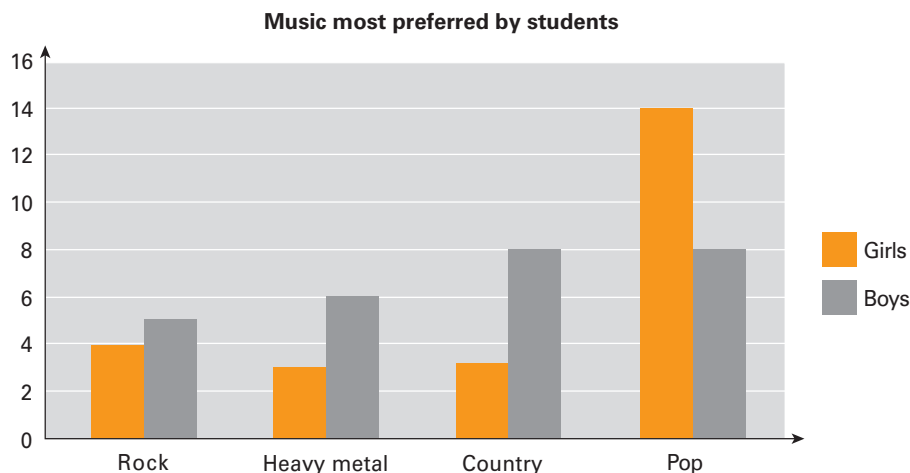
- ☐ \$30 + \$50 + \$40                  ☐ \$40 + \$50 + \$40                  ☒ \$40 + \$60 + \$40                  ☐ \$30 + \$50 + \$50

### QUESTION 13



WRITE YOUR OWN ANSWER

This graph shows the music preferences of some Year 7 students.



Use the information in the graph to complete this table.

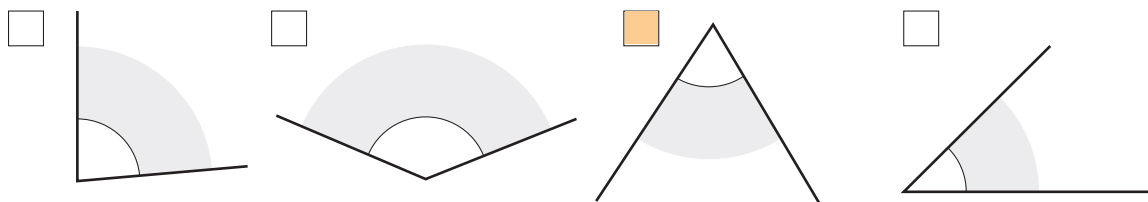
	Rock	Heavy metal	Country	Pop
Girls	4	3	3	14
Boys	5	6	8	8

### QUESTION 14

SHADE ONE BOX



What of the following shows an angle of approximately  $65^\circ$ ?



### QUESTION 15

SHADE ONE BOX



Preeti rode her bike at a speed of 6 m per second for a total of one-and-a-half minutes. How far did she ride?

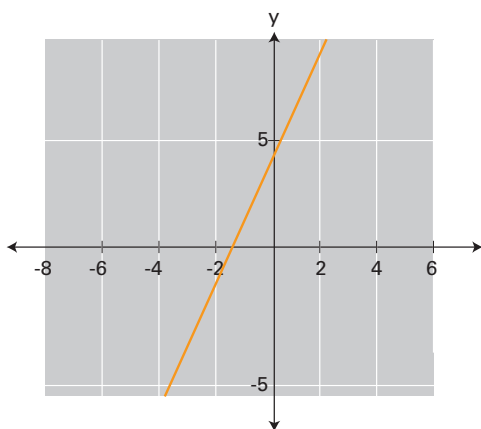
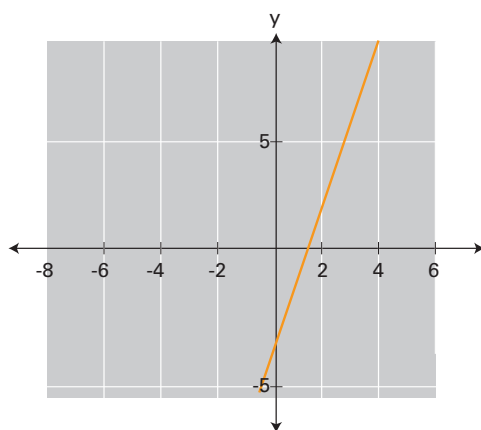
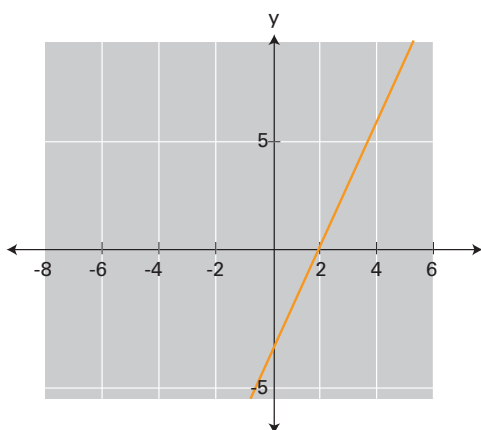
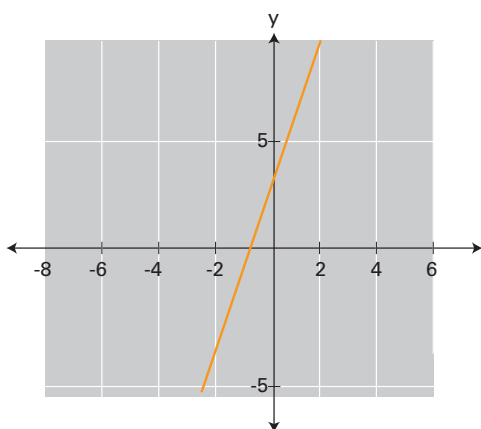
- ☐ 9 m
- ☐ 540 m
- ☒ 720 m
- ☐ 480 m

### QUESTION 16

SHADE ONE BOX



Which of the following graphs represents  $y = 3x - 4$ ?

☐

☒

☐

☐


**QUESTION 17****WRITE YOUR OWN ANSWER**

One-sixth of Gemma's scarf is 45 cm. How long is her scarf?  
Give your answer in metres.

metres

**QUESTION 18****SHADE ONE BOX**

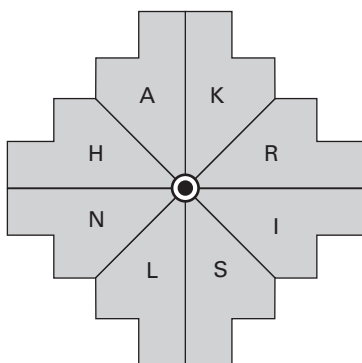
A machine serves random drinks.



What is the probability that you will be served a Vampire blood drink from this machine?

☒ 25%☐ 50%☐ 75%☐ 100%**QUESTION 19****SHADE ONE BOX**

What is the angle and direction of rotation required to make L the image of H?

☐ 90° clockwise☒ 90° anticlockwise☐ 270° anticlockwise☐ 180° clockwise

**QUESTION 20**SHADE ONE BOX 

Which of the following equations is represented by this flowchart?



☒  $y = \frac{4(x - 3)}{2} + 5$

☐  $x = \frac{4y - 3}{2} + 5$

☐  $x = \frac{4(y - 3)}{2} + 5$

☐  $y = \frac{4x - 3}{2} + 5$

**QUESTION 21**SHADE ONE BOX 

The ratio of girls to boys at a concert is 5:4. If there are 240 boys at the concert, how many attended altogether?

☐ 480☐ 432☐ 300☒ 540**QUESTION 22**WRITE YOUR OWN ANSWER 

Josh flew to Sydney from Hobart. His flight left at 10.37 a.m. and landed in Sydney after being delayed for several minutes at 3.41 p.m. How many minutes was he in the air?

 minutes**QUESTION 23**SHADE ONE BOX 

A fair coin is tossed 100 times. Four possible results of this experiment are listed below. Which of these results is most likely to occur?

☐ Heads occurs exactly 12 times.☐ Heads occurs exactly 70 times.☒ Heads occurs exactly 54 times.☐ Heads occurs exactly 101 times.**QUESTION 24**SHADE ONE BOX 

Which of the following events would require an estimate of mass?

☐ George is driving from Dubbo to Broken Hill.☒ Hans is comparing his grape production from this year to last year.☐ Cara is working out whether to put the air conditioner on.☐ Rohini is going to purchase water to fill her swimming pool.



### QUESTION 25



WRITE YOUR OWN ANSWER

Work out  $2\frac{3}{5} - 1\frac{2}{3}$  Write your answer in simplest terms.

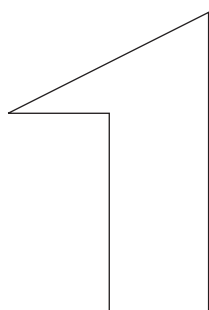
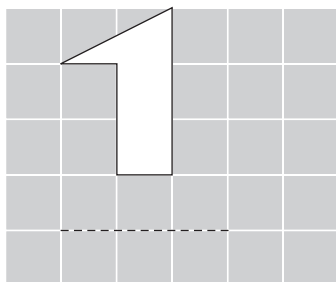
$\frac{14}{15}$

### QUESTION 26

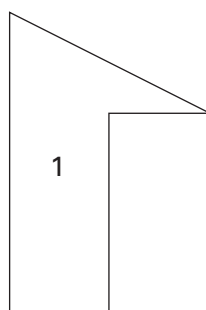
SHADE ONE BOX



The figure below is reflected in two mirrors as shown.

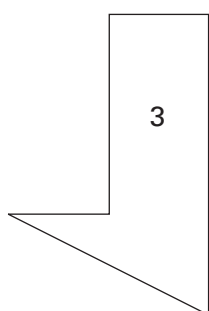


Mirror B

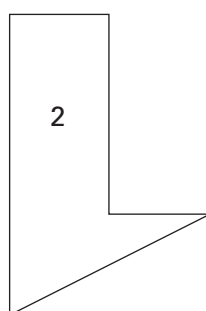


1

Mirror A



3



2

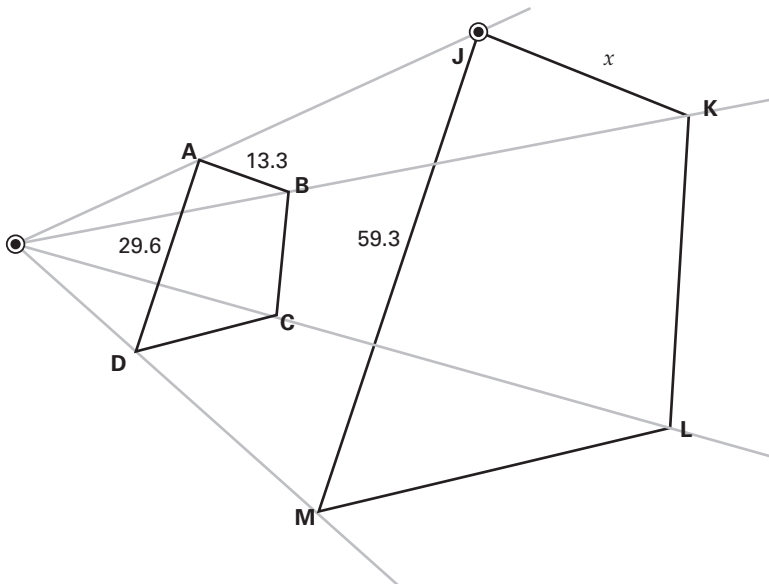
Which of the following statements is true?

- ☐ Image 3 is a reflection of Image 1 in mirror B.
- ☒ Image 3 is a reflection of Image 2 in mirror B.
- ☐ Image 2 is a reflection of Image 1 in mirror B.
- ☐ Image 2 is a reflection of the original in mirror B.

**QUESTION 27****WRITE YOUR OWN ANSWER**

Figure ABCD is enlarged by a scale factor to make figure JKLM.

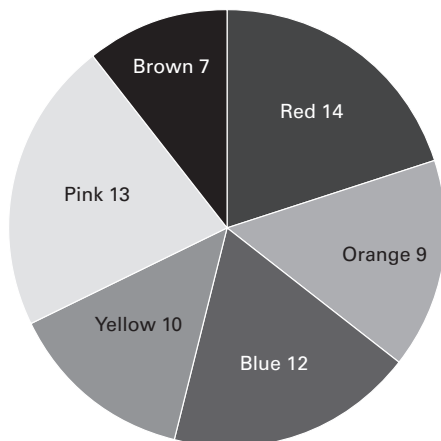
What is the length of side JK, marked as  $x$ ? Write your answer correct to one decimal place.



26.6

**QUESTION 28****WRITE YOUR OWN ANSWER**

Marcia sorted the lollies in her pack into colours and drew the following pie chart.



She only likes the yellow and orange lollies. What percentage of the box will she like? Write your answer correct to a whole number.

29 %

**QUESTION 29****WRITE YOUR OWN ANSWER**

For professional diving events, such as the Olympic Games, seven judges score a competitor out of a possible 10 points. Then the lowest and highest scores are rejected, and the mean of the remaining five scores is calculated to give the final score. For a particular competitor, the scores are: 6, 7, 8, 6, 8, 9 and 6.

What final score is awarded to this competitor?

7

**QUESTION 30**

SHADE ONE BOX



The heights of four students are 162.5 cm, 160.3 cm, 157.2 cm and 154.7 cm.

Use the clues below to find Ruby's height:

- Ruby is taller than Priscilla but shorter than Alice.
- Priscilla is shorter than Ai-Thie.
- Alice is not the tallest.

☐ 162.5 cm☐ 160.3 cm☒ 157.2 cm☐ 154.7 cm**QUESTION 31**

WRITE YOUR OWN ANSWER

Chris is making a pattern of triangles with matchsticks as shown below.



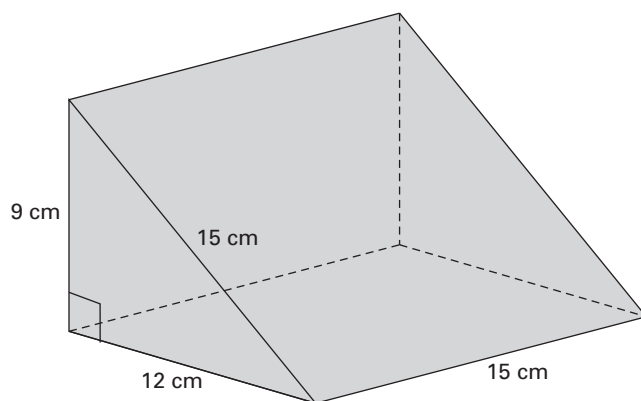
Write a rule that connects the number of triangles ( $t$ ) with the number of matchsticks ( $m$ ).

$$m = 2t + 1$$

**QUESTION 32**

WRITE YOUR OWN ANSWER

Find the surface area of this triangular prism.



$$648 \text{ cm}^2$$