MEASUREMENT QUESTIONS

QUESTION 1
What temperature is showing on this thermometer?

![Thermometer Image]

A. 38.4°  
B. 38.2°  
C. 37.6°  
D. 37.3°

QUESTION 2A
A machine in a supermarket is set to cut slices 3.5 mm thick from a piece of ham that is 28 cm long. How many slices can be cut?

A. 35  
B. 56  
C. 80  
D. 85

QUESTION 2B
A machine in a supermarket is set to cut slices 2.5 mm thick from a piece of cheese that is 40 cm long. How many slices can be cut?

A. 16  
B. 63  
C. 100  
D. 160

QUESTION 2C
A machine in a supermarket is set to cut slices of meat 2.5mm thick, from a piece that is 32cm long. How many slices can be cut?

QUESTION 3
Sarah weighs 160.6 pounds (73kg). According to this information, how many pounds are equal to 1 kilogram?

QUESTION 4A
The Three Kingdoms Period of Korea, when three kingdoms existed in the Korean Peninsula, spanned two eras; Before the Common Era (BCE) and the Common Era (CE). Specifically, the Three Kingdoms Period lasted from 57 BCE until 668 CE (inclusive of both years). Given that the year 1 BCE was followed by the year 1 CE, how many years did the Three Kingdoms Period last for?

QUESTION 4B
A particular king ruled from 32 BCE (Before the Common Era) to 17 CE (Common Era), inclusive of both years. Given there exists a year 0 between 1 BCE and 1 CE, how many years did the king rule for?
QUESTION 4C
A particular king ruled from 13 BCE (before the common era) to 29 CE (common era), inclusive of both years. Given there exists a year 0 between 1 BCE and 1 CE, how many years did the king rule for?

QUESTION 4D
A particular king ruled from 15 BCE (before the common era) to 41 CE (common era), inclusive of both years. Given there exists a year 0 between 1 BCE and 1 CE, how many years did the king rule for?

QUESTION 4E
A particular king ruled from 21 BCE (before the common era) to 14 CE (common era), inclusive of both years. Given the year 1 BCE was followed by the year 1 CE, how many years did the king rule for?

QUESTION 5A
A recipe calls for 1/2kg of plain flour, and 250g of wholemeal flour. How much flour, in grams, is required altogether?

QUESTION 5B
A recipe calls for 1/4kg of brown sugar, and 300g of white sugar. How much sugar, in grams, is required altogether?

GEOMETRY QUESTIONS

QUESTION 6A
A rectangle with a perimeter of 40 centimetres has a 3 centimetre square removed.

![Diagram](image)

What is the perimeter of the new shape in centimetres?
A. 31
B. 34
C. 46
D. 49

QUESTION 6B
A rectangle with a perimeter of 54 centimetres has a portion removed:

![Diagram](image)

What is the perimeter of the new shape in centimetres?
QUESTION 7A
What is the perimeter of this figure?

QUESTION 7B
What is the perimeter of this figure?

QUESTION 8
A fence is to be erected around a school playing field. The field is rectangular in shape and measures 120m by 90m. What length of fence will be needed?

QUESTION 9A
Which of the rectangles below is similar to this one:

A.

B.
QUESTION 9B
Which of the three rectangles below is similar to this one:

A.  

B.  

C.  

D.  

[Diagram of rectangles with dimensions]
QUESTION 9C
Which of the rectangles below is similar to this one?

A. 30 cm
   24 cm

B. 9 cm
   8 cm

C. 25 cm
   16 cm

D. 125 cm
   64 cm

QUESTION 10A
This large tank contains oil. The shaded area shows how much oil is already in the tank:
What volume of the tank is NOT filled with oil?
A. $32\text{m}^3$
B. $48\text{m}^3$
C. $60\text{m}^3$
D. $80\text{m}^3$

**QUESTION 10B**
This large tank contains oil. The shaded area shows how much oil is already in the tank:

What volume of the tank is NOT filled with oil?

**QUESTION 11A**
A rectangular prism of volume $3200\text{cm}^3$ has a rectangular base of length $10\text{cm}$ and width $8\text{cm}$:

What is the height of the prism?

**QUESTION 11B**
A rectangular prism of volume $360\text{cm}^3$ has a rectangular base of length $5\text{cm}$ and width $4\text{cm}$. What is the height of the prism?
QUESTION 12A
Find the volume of the L-shaped rectangular structure shown below:

QUESTION 12B
Find the volume of the L-shaped rectangular structure shown below:

QUESTION 12C
Find the volume of the L-shaped rectangular structure shown below:
**QUESTION 13**
The cubic container below will hold 1000L (1kL) of water:

![Cubic container diagram]

The swimming pool shown is filled to a depth of 1.5m:

![Swimming pool top and side view diagrams]

How much water is there in the pool?
A. 112.5kL  
B. 75kL  
C. 21.5kL  
D. 22.5kL

**QUESTION 14**
This container holds 1L of liquid:

![Container diagram]

How much does this container hold?
A. 2.5L  
B. 5L  
C. 7.5L  
D. 10L
QUESTION 15
A school playground measures 16m by 12.5m. What is its area in metres squared?

QUESTION 16
If a sheet of paper measures 300mm by 200mm, what is the surface area of one side of a sheet in square metres?

QUESTION 17

Which street is perpendicular to Ramsey Street?
A. Penny Street
B. Baker Street
C. Hill Street
D. Abbey Street

QUESTION 18A
Which pair of lines is perpendicular in the following diagram:

A. Red and green
B. Red and pink
C. Red and black
D. Blue and black

QUESTION 18B
Which of the following pairs of lines are perpendicular in the following diagram:
A. Pink and green
B. Blue and black
C. Green and blue
D. Red and green

QUESTION 19
The side-length of each grid square in the map below is 300m:

Which of these values is closest to the area of the shopping centre in square metres?
A. 3 000
B. 4 500
C. 9 000
D. 45 000
E. 90 000

MAP AND DIRECTION QUESTIONS

QUESTION 20
This map of Bracken Creek picnic ground shows four carparks.
What is the location of the carpark which is south-east of the bridge?
A. B, 4  
B. C, 1  
C. E, 3  
D. F, 1

**QUESTION 21**
An online map shows this route from City Primary School to Steele Park, and related information:

Select true or false for each of the following statements:

a. When walking from City Primary School towards Steele Park along Grey Street, Bridge Street is on the left.
b. The distance from the corner of Bridge Street and Grey Street to the entrance of Steele Park is less than 200 metres.
c. The route from City Primary School to Steele Park requires three left turns and one right turn

**QUESTION 22**
The map below shows the route from Collier Primary School to the Waterford Plaza:
True or false; to get to Waterford plaza from the school you need to take three right turns and two left turns?

**QUESTION 23**
Sarah is driving South along Bruce St, as located in the map below:

If she turns left into Kenny St, turns South down Conway St and turns left into Allen St, will she make it to the shopping centre?

**QUESTION 24**
A helicopter flying north has turned clockwise through 225°. In what direction is the helicopter now heading?
A. NE  
B. NW  
C. SE  
D. SW

**RATIO AND PROPORTION QUESTIONS**

**QUESTION 25**
If a particular type of milk has 118mg of calcium per 100mL, then how much calcium, in grams, would be in 2L?

**QUESTION 26**
A beach volleyball court measures 8m x 16m. If new rope is required to be purchased for the boundary line, at a cost of $0.96 per metre, how much would it cost for a new boundary line?

**QUESTION 27**
A bedroom wall is 4m wide and 2.4m high. If it is going to be covered in wall paper at a cost of $30 per square metre, how much will the wall paper cost?

**QUESTION 28**
How many pieces of card measuring 30cm by 20cm can be cut from a sheet measuring 1.5m by 1.5m?
QUESTION 29
A photocopier contains 5 reams of paper stacked on top of each other. If each ream contains 500 sheets and the stack is 27.5cm high, find the thickness of one sheet in millimetres (to two decimal places).

QUESTION 30A
Soap powder is sold in four different sizes. Which of the following represents the best buy?
A. 750g for $3.40
B. 1.25kg for $5.55
C. 1kg for $4.30
D. 1.5kg for $6.75

QUESTION 30B
Tins of milo are sold in four different sizes. Which of the following represents the best buy?
A. 450g for $5.50
B. 750g for $6.70
C. 1kg for $9
D. 1.5kg for $13.45

QUESTION 30C
Milk is sold in four different sizes. Which of the following represents the best buy?
A. 600mL for $1.30
B. 1L for $2.10
C. 2L for $2.90
D. 2.5L for $3.85

QUESTION 30D
The same brand of cereal is sold in four different sizes. Which of the following represents the best buy?
A. 250g for $3.50
B. 420g for $4.99
C. 730g for $6.78
D. 1.15kg for $11

QUESTION 30E
Flour is sold in four different sizes. Which of the following represents the best buy?
A. 300g for $1.20
B. 500g for $1.70
C. 1kg for $3
D. 2kg for $5

RATE OF CHANGE QUESTION

QUESTION 31
The graph shows the distance of a cyclist from home:
The cyclist was travelling most quickly between:
A. 9 am and 9.30 am
B. 9.30 am and 11.30 am
C. 11.30 am and 1 pm
D. 1 pm and 3 pm

SOLUTIONS
1: C
2A: C
2B: D
2C: 128
3: 2.2kg
4A: 725 years
4B: 50 years
4C: 43 years
4D: 57 years
4E: 35 years
5A: 750g
5B: 550g
6A: C
6B: 54cm
7A: 90cm
7B: 76cm
8: 420m
9A: D
9B: B
9C: A
10A: A
10B: 75m³
11A: 40cm
11B: 18cm
12A: 24 000mm³
12B: 447mm³
12C: 868cm³
13: A
14: C
15: 200m²
16: 0.06m²
17: A
18A: C
18B: C
19: D
20: D
22: True
23: No
24: D
25: 2.36g
26: $46.08
27: $288
28: 35 pieces
29: 0.11mm
30A: C
30B: B
30C: C
30D: C
30E: D
31: A