1. A total of 301,617 babies were born in Australia in 2011. Of these babies, 146,621 were girls. How many boys were born in Australia in 2011?

2. Rose tosses a fair coin 100 times. Which of these results is most likely?

3. This table shows some information about Australia’s 10 tallest structures.

<table>
<thead>
<tr>
<th>Name of structure</th>
<th>Height (m)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omega Mast</td>
<td>427</td>
<td>Woodside</td>
</tr>
<tr>
<td>Holt Main Mast</td>
<td>389</td>
<td>Exmouth</td>
</tr>
<tr>
<td>Holt Outer Mast</td>
<td>364</td>
<td>Exmouth</td>
</tr>
<tr>
<td>Q1 Tower</td>
<td>322</td>
<td>Gold Coast</td>
</tr>
<tr>
<td>Sydney Tower</td>
<td>309</td>
<td>Sydney</td>
</tr>
<tr>
<td>Holt Inner Mast</td>
<td>304</td>
<td>Exmouth</td>
</tr>
<tr>
<td>Eureka Tower</td>
<td>297</td>
<td>Melbourne</td>
</tr>
<tr>
<td>The Rialto</td>
<td>270</td>
<td>Melbourne</td>
</tr>
<tr>
<td>MIM Stack</td>
<td>270</td>
<td>Mount Isa</td>
</tr>
<tr>
<td>120 Collins St</td>
<td>264</td>
<td>Melbourne</td>
</tr>
</tbody>
</table>

How much taller than Melbourne’s tallest structure is Sydney’s tallest structure?

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4. Tina walks along the path from X to Y.

How far does she walk in **kilometres**?

- 0.13
- 1.3
- 13
- 1300

5. In which of these are the two shaded triangles the same size and shape?

6. Which number shows 3 thousands, 5 tens and 2 tenths?

- 350.02
- 3005.2
- 3050.2
- 3500.02
Two arrows show points on this number line.

Which one of these numbers lies between the two arrows?

- 350
- 390
- 490
- 550

Mia measures three angles of a block of land.

She makes this sketch.

What is the size of angle $x$?

- $98^\circ$
- $108^\circ$
- $118^\circ$
- $128^\circ$

In Australia, road distance is measured in kilometres.

In the USA, road distance is measured in miles.

5 miles is about the same distance as 8 kilometres.

About how many miles is 120 kilometres?

- 15 miles
- 40 miles
- 75 miles
- 192 miles
10. Indra is shading squares in this grid to make a pattern.

He needs to shade some extra squares so that the dotted line will be a line of symmetry.

What is the smallest number of extra squares he needs to shade?

1  3  4  5

11. Which of these best describes the chance of an event that is very likely?

\[
\frac{1}{3} \quad \frac{1}{2} \quad \frac{5}{6} \quad 1
\]

12. Wheelchair access ramps have a rise of 1 metre for every 14 metres of base length.

What is the base length for a ramp with a rise of 0.4 metres?

5.6 metres  13.4 metres  14.4 metres  35.0 metres
13 Sue has only 10-cent, 20-cent and 50-cent coins in her pocket. In total she has $2.80. What is the smallest number of coins she could have?

5 6 7 8 9

14 Paul takes part in a swimathon to raise money. He has two sponsors. His father donates $2.50 for each lap of the pool that Paul swims. His grandmother donates $10 in total. How many laps does Paul need to swim to raise $100?

8 10 36 40 44

15 Dani earns $45 for washing 9 cars. Which expression shows how many dollars she will earn for washing $n$ cars?

$(45 \times 9) \times n$  $(45 \div 9) \div n$  $(45 \times 9) \div n$  $(45 \div 9) \times n$

16 This indicator measures the depth of water in a lake.

What is the depth of the water?

4.2 metres  4.4 metres  4.7 metres  5.3 metres  5.6 metres
On this map the distance from the rocks to the waterhole is 4 cm.

What is the actual distance from the rocks to the waterhole?

- 50 m
- 80 m
- 500 m
- 800 m

Andy and Kal ran a race together.
Kal finished the race in one hour and five minutes.
Andy took 35% longer than Kal.
Approximately how long did Andy take to finish the race?

- 88 minutes
- 100 minutes
- 140 minutes
- 142 minutes

These triangles are not drawn to the same scale.
Which one has an area of 36 square centimetres?

- 6 cm
- 12 cm
- 1 cm
- 12 cm

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YEAR 9 Numeracy (Calculator Allowed)
This table gives information about two drill bits with similar diameters.

<table>
<thead>
<tr>
<th>Drill bit</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\frac{1}{8}$ inch</td>
</tr>
<tr>
<td></td>
<td>3 millimetres</td>
</tr>
</tbody>
</table>

One inch equals 25.4 millimetres.

What is the difference in millimetres between the diameters of the two bits?

Give your answer to three decimal places.

millimetres

Bill is standing 5 metres due north of Sarah.

Sarah is standing 5 metres due east of Alice.

Alice is facing east. She then turns anticlockwise so that she is facing Bill.

How many degrees does Alice turn through?

45° 60° 90° 120° 135°
This calculation gives the approximate volume of the dome in cubic metres.

\[ Volume = \frac{1}{2} \times \frac{4\pi}{3} \times 8^3 \]

What volume does the calculation give, to the nearest cubic metre?

\[ \square \text{m}^3 \]

100 \( - \frac{\sqrt{85^2 + 132^2}}{2} = \square \)

About 40 000 skin cells are lost from the surface of our skin every minute.

Which of these values is closest to the number of skin cells lost in one day?

9.6 \( \times \) \(10^4\) \quad 9.6 \( \times \) \(10^5\) \quad 5.76 \( \times \) \(10^5\) \quad 5.76 \( \times \) \(10^7\)
The rule for the graph is

\[ D = \frac{S^2}{k} \]

\( D \) is the distance in metres that a car takes to stop when it is travelling at a speed of \( S \) kilometres per hour.

The graph shows that a car travelling at 60 kilometres per hour takes 30 metres to stop.

Use this to calculate the value of \( k \).

Dan worked for 7 hours at his normal pay rate.
He also worked for 4 hours on the weekend at double his normal pay rate.
Dan was paid $445.50 in total.
How much was his normal pay rate per hour?

$
Alex has a rectangular room, 3.2 metres long and 2.4 metres wide. She wants to cover the floor of her room with these square tiles.

One pack
6 square tiles
40 cm × 40 cm

How many packs of tiles does Alex need?

28

ABDE is a square. BCD is an equilateral triangle.

What is the size of $\angle BAC$?

$15^\circ$ $20^\circ$ $22.5^\circ$ $25^\circ$ $30^\circ$

29

$\frac{2}{35} = \frac{1}{30} + \frac{1}{?}$

What does the missing number $?$ equal?
David counted the birds in his garden.
\( \frac{1}{3} \) of the birds were cockatoos and \( \frac{1}{4} \) were pigeons.
He saw 6 more cockatoos than pigeons.
How many birds did David see?

18 24 42 72

This is a drawing of a swimming pool. It has the shape of a prism.
The shaded side is a trapezium with area 18 square metres.

The capacity of one cubic metre is 1000 litres.
What is the capacity of the pool in litres?

\[ \text{litres} \]

A cube is cut into two identical rectangular prisms.

What is the ratio of the surface area of the cube to the surface area of one of the prisms?

1 : 2 2 : 1 2 : 3 3 : 2

STOP – END OF TEST