1. What number is missing from this number sentence?

\[ 5 \times ? + 15 = 85 \]

- 2
- 10
- 14
- 20

2. These pictures show the dials for four fuel tanks.
Which dial shows that the tank is about 75% full?

- EMPTY FULL
- EMPTY FULL
- EMPTY FULL
- EMPTY FULL

3. Jane bought a packet of 12 cards for $15.00.
The average price of a card is

- $0.80
- $1.25
- $1.80
- $3.00

4. Which dotted line is a line of symmetry?
5. The arrow points to a position on the number line. What number is at this position? 

6. A shop sells new and used computers. The graph shows the price of 2 similar computers and their age in years.

**Comparing computers**

<table>
<thead>
<tr>
<th>Price ($)</th>
<th>Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

Which one of these statements is true?

- Computer B is older and less expensive than computer A.
- Computer A is newer and less expensive than computer B.
- Computer A is older and more expensive than computer B.
- Computer B is newer and more expensive than computer A.

7. Peter wants to paint his bedroom walls. What information will best help him decide how much paint to buy?

- volume of room
- capacity of room
- perimeter of all walls
- area of all walls
8. The top speed of this wombat is 660 metres per minute.

What is the top speed of the wombat in metres per second?

- 11
- 66
- 110
- 600

9. For any prism the surface area \( S \) is calculated by multiplying the perimeter of its base \( p \) by its height \( h \) and adding twice the area of the base \( A \).

Which one of these formulas could be used for this calculation?

- \( S = 2phA \)
- \( S = ph + A \)
- \( S = ph + 2A \)
- \( S = 2ph + 2A \)

10. Opposite faces on a standard die always add up to 7.

Which is a correct net for a standard die?
A water tank has a capacity of 6.25 kilolitres. 

How many litres does the water tank hold when it is full?

625 6025 6250 62500

This block has 6 faces which are numbered from 1 to 6.

Vicky throws the block 1000 times to test it and records the outcomes.

<table>
<thead>
<tr>
<th>Number on top face</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>150</td>
<td>360</td>
<td>146</td>
<td>144</td>
<td>68</td>
<td>132</td>
</tr>
</tbody>
</table>

What is the probability of rolling a 2 based on Vicky’s results?

\[
\frac{1}{6} \quad \frac{1}{60} \quad \frac{9}{25} \quad \frac{3}{500}
\]

Sticks are used to make this pattern of pentagons.

In this pattern the rule for the number of sticks is

- 5 × number of pentagons.
- 4 × number of pentagons.
- 5 × number of pentagons – 1.
- 4 × number of pentagons + 1.

A rule for \( y \) in terms of \( x \) is \( y = 6 - 4x \).

When \( x = 3.75 \) the value of \( y \) is

-9 -1.75 7.5 9
Which of these are always equal in length?

- the opposite sides of a trapezium
- the opposite sides of a parallelogram
- the diagonals of a trapezium
- the diagonals of a parallelogram

When this kettle is full of water it has a mass of 2900 grams.

When the kettle is half full of water it has a mass of 2050 grams.

What is the mass of the kettle when it is empty?

grams

Sue drew this plan of a square block of land.
All measurements are given in metres.

The area of the lawn in square metres is

\[ x^2 - 6 \]  \[ x^2 + 6 \]  \[ 2x^2 - 5 \]  \[ 2x^2 - 6 \]
Mira made this table showing population data over two years for the six Australian states. Some data for South Australia is not shown.

<table>
<thead>
<tr>
<th>Population of Australian States</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>NSW</td>
</tr>
<tr>
<td>Vic</td>
</tr>
<tr>
<td>Qld</td>
</tr>
<tr>
<td>SA</td>
</tr>
<tr>
<td>WA</td>
</tr>
<tr>
<td>Tas</td>
</tr>
</tbody>
</table>

What was the population of South Australia (SA) closest to in 2003?

- 2 537 500
- 2 436 000
- 1 613 800
- 1 531 600

Which of these percentages is closest in value to $\frac{7}{9}$?

- 76%
- 77%
- 78%
- 79%

Kiri has to find the value of this expression without a calculator.

$20 - 12 \times \sqrt{9.5 + 6.5}$

Which calculation should she do first?

- $20 - 12$
- $12 \div 9.5$
- $\sqrt{9.5}$
- $9.5 + 6.5$
21. Joe is 1.6 m tall. His shadow is 2 m long when he stands 3 m from the base of a floodlight. What is the height of the floodlight?

- 2.4 m
- 2.6 m
- 4.0 m
- 4.2 m

22. A factory makes metal boxes. The base and sides of the boxes are rectangular. The height of each box is 0.8 metres. Which box has a volume of 0.16 cubic metres?

- 0.4 m x 0.4 m
- 0.5 m x 0.3 m
- 0.5 m x 0.5 m
- 0.4 m x 0.5 m

23. A racing car used 255 litres of fuel to complete a 340 km race. On average, how many litres of fuel did the car use every 100 km?

litres per 100 km
A stack of 4 cups is 20 cm tall.
A stack of 6 cups is 26 cm tall.

Which rule can be used to work out the height, in centimetres, of a stack of \( n \) cups?

\[
\begin{align*}
6n - 10 & \quad 6n - 4 & \quad 3n + 11 & \quad 3n + 8
\end{align*}
\]

This list shows the number of films that nine members of a film club watched in April.

<table>
<thead>
<tr>
<th>Number of films watched</th>
</tr>
</thead>
<tbody>
<tr>
<td>0, 1, 2, 2, 3, 4, 5, 5, 5</td>
</tr>
</tbody>
</table>

Which of the following is true for this data?

- mean > median = mode
- mean < median < mode
- mean = median = mode
- mean = median < mode

What is the value of \( 2 + 5x - x^2 \) when \( x = -2 \)?

\[-12 \quad -4 \quad 8 \quad 16\]

The cost in dollars to print \( n \) books is 500 + 10\( n \).

How many books are printed for a cost of $15000?
This solid triangular prism needs all its faces painted. The area of each triangular face is 3 m².

What is the total area to be painted? ___________ m²

A builder needs 6.5 cubic metres of concrete for a job. This table shows the mixture for the concrete.

<table>
<thead>
<tr>
<th>cement</th>
<th>sand</th>
<th>small stones</th>
<th>water</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 parts</td>
<td>4 parts</td>
<td>6 parts</td>
<td>1 part</td>
</tr>
</tbody>
</table>

How many cubic metres of sand does the builder need?

___________ cubic metres

When this car moves forward by 180 cm, each wheel does one full turn.

What is the diameter of the wheels to the nearest centimetre?

___________ cm
A model of how a shell grows can be made using enlarged copies of the same triangle.
Here is a model.

What is the value of \( x \)?

A rectangular sheet of paper had a width of 841 millimetres. Its area was 1 square metre.
What was its length to the nearest millimetre?

\[
\text{millimetres}
\]