1. Grace is 16 years old.
   Mark is 5 years more than twice Grace’s age.
   How old is Mark?
   - 42
   - 82
   - 23
   - 37

2. When keeping horses, 1 hectare of land is recommended for every 2 horses.
   How many hectares of land would be needed for 8 horses?
   - 4
   - 6
   - 10
   - 16

3. Nathan is making a pattern with black and white tiles.
   If the pattern continues, how many black tiles will there be in Design 10?
   - 3
   - 15
   - 30
   - 33

4. Jane makes necklaces using beads.
   She has 345 beads in 23 different colours.
   She has the same number of beads in each colour.
   How many beads does Jane have of each colour?
   beads
Tammy left her house at 8:35 in the morning and did not return until 4:45 in the afternoon.

How long was Tammy away from her house?
- 3 hours 50 minutes
- 4 hours 10 minutes
- 7 hours 50 minutes
- 8 hours 10 minutes
- 13 hours 20 minutes

A scientist is studying mice.

Which unit would be the most appropriate to record the mass of a mouse?
- litre
- millimetre
- gram
- kilogram

Lucas is playing a game with the spinner shown.
He will win if the arrow stops in a blue section.

What is the probability that Lucas will win the game on his next spin?
- $\frac{1}{2}$
- $\frac{1}{3}$
- $\frac{1}{4}$
- $\frac{1}{8}$
Mike had 4 cups of rice.
He used \(\frac{1}{2}\) cup of rice for one recipe and \(1\frac{1}{4}\) cups of rice for another recipe.
How many cups of rice did Mike have left?

\[
\begin{array}{c}
1\frac{1}{4} \\
2\frac{1}{4} \\
2\frac{1}{2} \\
5\frac{3}{4}
\end{array}
\]

The graph shows the origin and type of all vehicles in a town.

Which statement is most accurate based on the graph?
- There are more four-wheel drives than passenger cars.
- Commercial vehicles are the most common type of vehicles.
- There are more Asian vehicles than European vehicles.
- There are more Australian vehicles than European vehicles.

Mary had 1 kilogram of cheese.
She used \(\frac{1}{4}\) kilogram for sandwiches.
Which of these shows how much cheese she had left?

\[
\begin{array}{c}
0.25\text{ kg} \\
0.3\text{ kg} \\
0.34\text{ kg} \\
0.75\text{ kg}
\end{array}
\]
11. This tile has equal length sides.

![Tile with side length 3.5 cm](image)

Four of the tiles joined together make a larger shape as shown.

What is the perimeter of the larger shape?

42 cm  49 cm  56 cm  70 cm

12. Numbers such as 4, 16, 64, 81 and 100 are called square numbers.

Select the statement that is always true about square numbers.

- A square number multiplied by a square number is a square number.
- A square number divided by a square number is a square number.
- The sum of a square number and a square number is a square number.
- The difference between a square number and a square number is a square number.

13. Ethan plans to steadily increase the time he exercises each day.

His plan is shown below.

<table>
<thead>
<tr>
<th>Exercise time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 minutes</td>
<td>30 minutes</td>
<td>45 minutes</td>
<td>67.5 minutes</td>
</tr>
</tbody>
</table>

Which statement about Ethan’s plan is true?

Ethan plans to exercise:

- 10 times longer than the previous day.
- 10 minutes longer than the previous day.
- 1.5 times longer than the previous day.
- 1.5 minutes longer than the previous day.
A baker uses 12.5 kilograms of flour each day.
Flour costs $3.62 per kilogram.

What is the cost of the flour used each day?

$ 

Mason’s receipt from an electronics store was torn and part of it was lost.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>10-pack batteries</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>USB cable</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>16 GB flash drive</td>
<td></td>
</tr>
<tr>
<td>Total for 7 items</td>
<td>Total amo</td>
<td></td>
</tr>
</tbody>
</table>

He knew:
- each 10-pack of batteries cost just under $6
- each USB cable cost just under $11

His credit card statement showed that he spent $72.40 at the electronics store.
About how much did the flash drive cost?

$5  $16  $28  $55
Which number line shows the correct locations of $\frac{2}{3}$, $-\frac{4}{6}$, and $-1 \frac{1}{3}$?

16

Each day a factory produces 1250 cans of chicken soup and 1300 cans of vegetable soup.

Each can contains 400 grams of soup.

How many kilograms of soup does the factory produce in one day?

- 10.2 kilograms
- 20 kilograms
- 500 kilograms
- 1020 kilograms
Flynn asked each of his classmates, ‘What is your favourite sport?’
This table shows the results.

<table>
<thead>
<tr>
<th>Sport</th>
<th>Number of classmates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennis</td>
<td>10</td>
</tr>
<tr>
<td>Netball</td>
<td>13</td>
</tr>
<tr>
<td>Soccer</td>
<td>9</td>
</tr>
</tbody>
</table>

What is the probability that a randomly selected classmate’s favourite sport is netball? Round your answer to the nearest hundredth.

0.13 0.41 0.59 0.68

Sophia wants to buy the type of pasta that is the best value.
Which type of pasta costs the least per gram?
- Pasta shells 150 g for $2
- Pasta spirals 250 g for $2
- Spaghetti 400 g for $3
- Fettucini 500 g for $5

Leo recorded the number of pages he printed over five weeks.
17, 22, 17, 24, 20
What is the mean number of pages Leo printed?

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21. A jam recipe uses 2 cups of sugar for every 3 cups of fruit.
Select the correct combination of sugar and fruit for this recipe.
- $\frac{1}{2}$ cup of sugar, $\frac{1}{3}$ cup of fruit
- 1 cup of sugar, 1.5 cups of fruit
- 1.5 cups of sugar, 2.5 cups of fruit
- 4 cups of sugar, 5 cups of fruit

22. A class is making crystals using sugar-water and string.
Each student needs 0.25 litres of sugar-water for the experiment.
How many millilitres of sugar-water does each student need?

23. The table below lists the original price and the amount of discount of the same shirt at four different shops.

<table>
<thead>
<tr>
<th>SHIRT SALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Shop</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
</tbody>
</table>

Which shop has the lowest sale price for the shirt?
- A
- B
- C
- D
Triangle $ABC$ is moved to the new position shown by triangle $EFG$.

Which of these transformations resulted in the new position?
- Rotate $\Delta ABC$ $180^\circ$ clockwise about the origin.
- Rotate $\Delta ABC$ $270^\circ$ clockwise about the origin.
- Reflect $\Delta ABC$ across the $x$-axis, then translate 4 units left.
- Reflect $\Delta ABC$ across the $y$-axis, then translate 4 units down.

Lily has a box with a volume of $6750$ cm$^3$ and a height of $30$ cm.

Which of these could be the length and width for the box?
- $9$ cm $\times$ $25$ cm
- $15$ cm $\times$ $20$ cm
- $25$ cm $\times$ $13$ cm
- $30$ cm $\times$ $15$ cm
Ruby designs a rectangular picture for her wall. Inside her rectangle, she adds three straight lines as shown.

What is the size of angle $x$?

$\_\_\_\_\_\_\_\_ \text{ degrees}$

Gina is organising a sausage sizzle for her netball team. She will buy the rolls in bags of a dozen. She notices the more rolls she buys, the less it costs per bag.

<table>
<thead>
<tr>
<th>Cost of bags of rolls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of bags</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

If this price pattern continues, how much will it cost for 7 bags of rolls?

$\_\_\_\_\_\_\_\_\$
28

Lines $AB$ and $CD$ are parallel.

Line $PQ$ intersects lines $AB$ and $CD$ as shown.

Which pair of angles are equal?
- $\angle DGQ$ and $\angle DGP$
- $\angle CGP$ and $\angle AFQ$
- $\angle QGC$ and $\angle QGD$
- $\angle PGC$ and $\angle PFA$

29

A school vegetable garden has:
- 4 lettuce plants
- 2 less capsicum plants than spinach plants
- 4 times as many spinach plants as lettuce plants
- 1 parsley plant, 1 sage plant and 1 basil plant and
- the number of spinach plants is a quarter of the number of tomato plants.

How many plants are growing in the school vegetable garden?

30

Mona is travelling to visit her sister who lives 175 kilometres away.

Her car uses 6.85 litres of fuel per 100 kilometres.

How much fuel will Mona need to travel to her sister’s house?

Round your answer to the nearest litre.

litres
A Cartesian plane is shown.

Select the correct statement below.

- O is located where \( x = 0 \) and \( y < 0 \).
- J is located where \( x > 0 \) and \( y < 0 \).
- K is located where \( x < 0 \) and \( y > 0 \).
- L is located where \( x < 0 \) and \( y = 0 \).

The headboard on Alice's bed is in the shape of a trapezium. To paint the headboard Alice needs to calculate the area.

What is the area of her headboard?

\[ \text{cm}^2 \]