**July 23rd**

<table>
<thead>
<tr>
<th>5-a-day</th>
<th>Numeracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A rule for a sequence is “half the previous number.”</td>
<td></td>
</tr>
<tr>
<td>40 20 10</td>
<td>5 2.5</td>
</tr>
</tbody>
</table>

Find the two missing numbers

<table>
<thead>
<tr>
<th>Shade ¼ of this shape</th>
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<td>⅛ of 10 = 3</td>
</tr>
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</table>

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<th>What percentage of the shape is not shaded?</th>
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<tr>
<td>75%</td>
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Shown above is a cube

<table>
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<tr>
<th>How many faces does the cube have?</th>
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<tr>
<td>6</td>
</tr>
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<table>
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<tr>
<th>How many vertices does the cube have?</th>
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<tbody>
<tr>
<td>8</td>
</tr>
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</table>

A counter is picked at random.

<table>
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<tr>
<th>What is the probability of a red?</th>
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<tr>
<td>( \frac{6}{9} = \frac{2}{3} )</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>( \frac{3}{4} ) of 44m</th>
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<tbody>
<tr>
<td>33 m</td>
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</tbody>
</table>
### 5-a-day

#### Work out the perimeter of the rectangle

\[
\frac{2}{3} + \frac{2}{3} + \frac{2}{4} + \frac{2}{4} + \frac{3}{8} + \frac{3}{12} + \frac{4}{12} + \frac{4}{12} = \frac{58}{12}
\]

#### Solve

\[
\frac{1}{4} \div \frac{11}{13} = \frac{13}{44}
\]

\[
5x + 6 = 21 \\
5x = 15 \\
x = 3
\]

#### Find the nth term

\[
1, 1.5, 2, 2.5, ... \\
0.5n + 0.5
\]

#### Find the 20th term.

\[
0.5 \times 20 + 0.5 = 10.5
\]

#### Factorise fully

\[
6ef + 9e^2 = 3e(2f + 3e)
\]
July 23

5-a-day

A train leaves a train station every 12 minutes.  \(2 \times 2 \times 3\)
A bus leaves a bus station every 14 minutes.
At 11 am a train and a bus both leave the station.

When will both next leave the station at the same time?

\(2 \times 7\)
\(2\) \(7\)
\(12\) \(14\)
84 minutes

12:24

Higher

The area of a circle is 20 cm\(^2\).
Work out the circumference.

\(\overline{20} = \frac{20}{\pi} = 6.36619...\)
\(r = \sqrt{6.36619} = 2.5231\)
\(C = \pi \times d = \pi \times (5.046...) = 15.85\)

Find the midpoint of AB

\((1, 10)\)
\(A \times \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)\)
\(B \times (5, 1)\)

\(\left( \frac{6}{2}, \frac{11}{2} \right)\)
\(\left(3, 5.5\right)\)

Barry wants a sample of 80 people.
How many "over 60's" should he select?

\(\frac{405}{3103} \times 80 = 10.44\)
10 \(\left(\frac{11}{11}\right)\)

\((4.2 \times 10^3) \times (3 \times 10^5)\)
\(2 \times 10^{11}\)

\(\frac{12.6 \times 10^8}{2 \times 10^7}\)
\(6.3 \times 10^{-3}\)