Percentage of an amount (2)

1. a) Use the bar model to find 10% of 500

\[
\begin{array}{c}
\text{?} \\
\hline
\text{10} \\
\text{20} \\
\text{30} \\
\text{40} \\
\text{50} \\
\text{60} \\
\text{70} \\
\text{80} \\
\text{90} \\
\text{100} \\
\hline
\text{500}
\end{array}
\]

10% of 500 = 50

b) Use your answer to part a) to help you complete the calculations.

\[
\begin{array}{c}
\text{20% of 500 = 100} \\
\text{70% of 500 = 350} \\
\text{90% of 500 = 450} \\
\text{60% of 500 = 300} \\
\text{30% of 500 = 150} \\
\text{100% of 500 = 500}
\end{array}
\]

2. To find 5% you can find 10% and then halve it.

3. Some children are asked to find 75% of 340

a) Use Dexter’s method to find 75% of 340

I will find 25% and multiply it by 3

\[
\begin{align*}
\text{25% of 340} &= 85 \\
\text{75% of 340} &= 255
\end{align*}
\]

b) Use Alex’s method to find 75% of 340

I will find 10% and multiply it by 7, then find 5% and add them together.

\[
\begin{align*}
\text{10% of 340} &= 34 \\
\text{70% of 340} &= 238 \\
\text{5% of 340} &= 17 \\
\text{75% of 340} &= 255
\end{align*}
\]

Use Dora’s method to complete the calculations.

\[
\begin{array}{cc}
a) 5\% \text{ of } 40 &= 2 \\
b) 5\% \text{ of } 400 &= 20 \\
c) 5\% \text{ of } 4,000 &= 200 \\
d) 5\% \text{ of } 2,000 &= 100 \\
e) 5\% \text{ of } 6,000 &= 300
\end{array}
\]

What do you notice about your answers?
c) Use Amir’s method to find 75% of 340

\[ \frac{75}{100} \times 340 = 255 \]

d) Are there any other methods you could use?

Talk to a partner about different methods for finding these percentages.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Example 1</th>
<th>Example 2</th>
<th>Example 3</th>
<th>Example 4</th>
<th>Example 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>200</td>
<td>110</td>
<td>8</td>
<td>900</td>
<td>3,807</td>
</tr>
<tr>
<td>90%</td>
<td>900</td>
<td>550</td>
<td>1,420</td>
<td>81</td>
<td>4.4</td>
</tr>
<tr>
<td>60%</td>
<td>600</td>
<td>550</td>
<td>240</td>
<td>81</td>
<td>58.8</td>
</tr>
<tr>
<td>15%</td>
<td>150</td>
<td>45</td>
<td>160</td>
<td>400</td>
<td>39.2</td>
</tr>
<tr>
<td>55%</td>
<td>550</td>
<td>2,420</td>
<td>160</td>
<td>400</td>
<td>39.2</td>
</tr>
<tr>
<td>40%</td>
<td>400</td>
<td>1,420</td>
<td>160</td>
<td>400</td>
<td>39.2</td>
</tr>
</tbody>
</table>

Use your preferred method to calculate the percentages.

a) 20% of 1,000 = 200
d) 15% of 1,000 = 150
20% of 550 = 110
15% of 300 = 45
20% of 40 = 8
15% of 30 = 4.5
b) 90% of 1,000 = 900
e) 55% of 1,000 = 550
90% of 4,230 = 3,807
55% of 4,400 = 2,420
90% of 90 = 81
55% of 8 = 4.4
c) 60% of 1,000 = 600
f) 40% of 1,000 = 400
60% of 400 = 240
40% of 400 = 160
60% of 98 = 58.8
40% of 98 = 39.2

Ron is calculating these percentages.

10% of 20 \quad 20% of 10

20% is double 10%, and 10 is half of 20, so I know these will both have the same answer.

How does Ron know this?

a) Complete the calculations.

\[ \begin{align*}
20\% \text{ of } 40 &= 8 \\
25\% \text{ of } 60 &= 15 \\
40\% \text{ of } 20 &= 8 \\
60\% \text{ of } 25 &= 15
\end{align*} \]

b) What do you notice about the answers?

Each column is the same.

c) Does this always happen? Investigate with other examples.

d) Talk about your findings with a partner.