

Assessing pupils' progress in mathematics at Key Stage 3

Year 8 assesment package
Number

Examples of pupils' work



Using 1-2-5-10 sheet 1

Level 3

Use the 1-2-5-10 tables to work out the answers.

Year 8

Number

LESSON 1: 1-2-5-10

<p style="text-align: center;">16 × 13</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">lots of 13</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td style="text-align: center;">13</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">26</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">65</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">130</td></tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;"> $130 + 65 + 13$ $6 \cdot 208$ </p>	lots of 13		1	13	2	26	5	65	10	130	<p style="text-align: center;">13 × 16</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">lots of 16</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td style="text-align: center;">16</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">32</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">80</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">160</td></tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;"> $160 + 32 + 16$ 208 </p>	lots of 16		1	16	2	32	5	80	10	160
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Using 1-2-5-10 sheet 1
Level 4

Use the 1-2-5-10 tables to work out the answers.

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$$\begin{array}{r} 130 \\ 65 \\ \cdot 13 \\ \hline 208 \end{array}$$

$$\begin{array}{r} 140 \\ 78 \\ \cdot 17 \\ \hline 246 \end{array}$$

$$\begin{array}{r} 4000 \\ 2000 \\ 400 \\ \hline 6400 \end{array}$$

$$\begin{array}{r} 160 \\ 32 \\ \cdot 16 \\ \hline 208 \end{array}$$

$$\begin{array}{r} 110 \\ 110 \\ 110 \\ 22 \\ \hline 352 \end{array}$$

Using 1-2-5-10 sheet 2
Level 5

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Using 1-2-5-10 sheet 2
Level 5

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Handwritten: 7010 / 1480

Using 1-2-5-10 sheet 3
Level 5

Use the 1-2-5-10 tables to work out the answers.

<p>$17 \times 14 = 238$</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr><th colspan="2">lots of 14</th></tr> </thead> <tbody> <tr><td>1</td><td>14</td></tr> <tr><td>2</td><td>28</td></tr> <tr><td>5</td><td>70</td></tr> <tr><td>10</td><td>140</td></tr> </tbody> </table> <p><i>Handwritten: 17 x 14 = 238 with arrows pointing to the table and a large bracket around it.</i></p> <p style="text-align: center;"> $\begin{array}{r} + 28 \\ 140 \\ \hline = 238 \end{array}$ </p>	lots of 14		1	14	2	28	5	70	10	140	<p>$32 \times 11 = 352$</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr><th colspan="2">lots of 32</th></tr> </thead> <tbody> <tr><td>1</td><td>32</td></tr> <tr><td>2</td><td>64</td></tr> <tr><td>5</td><td>160</td></tr> <tr><td>10</td><td>320</td></tr> </tbody> </table> <p><i>Handwritten: 32 x 11 = 352 with arrows pointing to the table and a large bracket around it.</i></p> <p style="text-align: center;"> $\begin{array}{r} + 32 \\ 320 \\ \hline = 352 \end{array}$ </p>	lots of 32		1	32	2	64	5	160	10	320
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Using 1-2-5-10 sheet 3
Level 5

Use the 1-2-5-10 tables to work out the answers.

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Using 1-2-5-10 sheet 3
Level 6

Use the 1-2-5-10 tables to work out the answers.

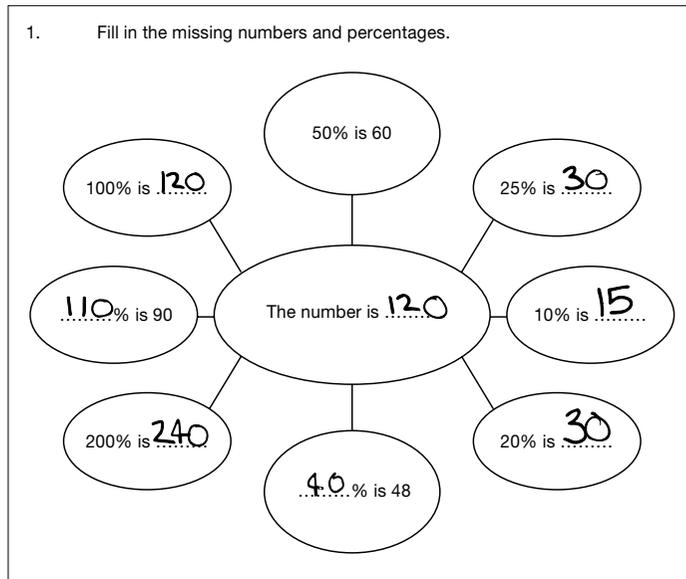
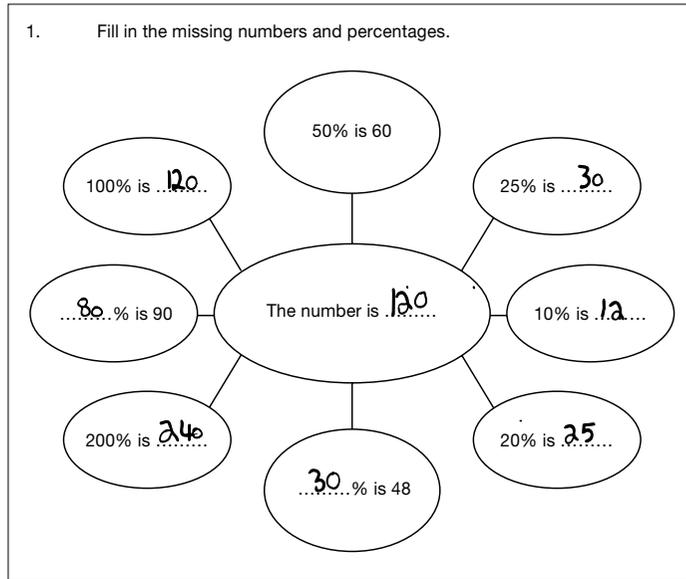
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Year 8

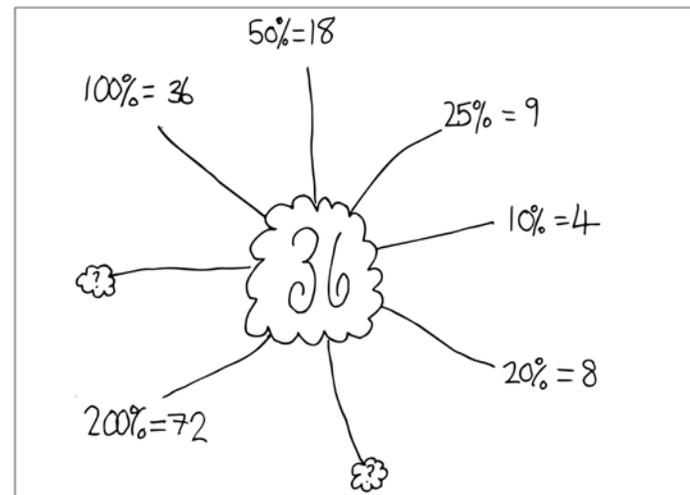
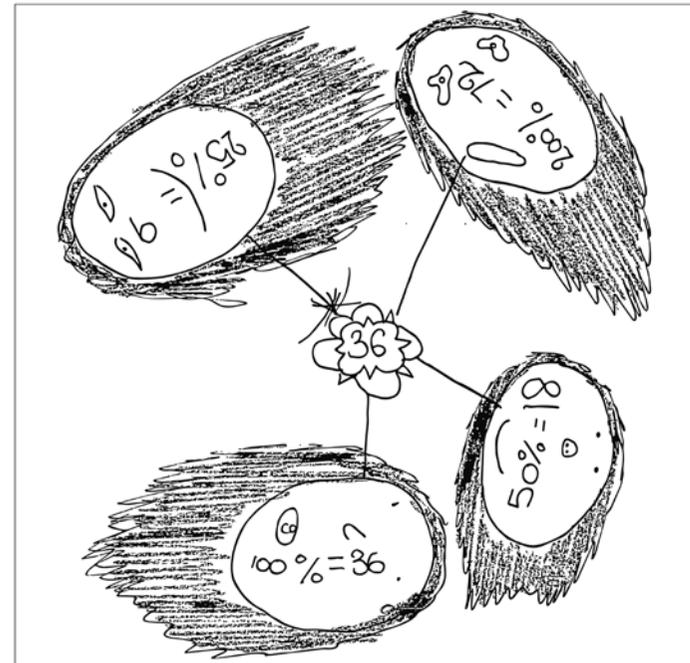
Number

LESSON 2: *Percentages!*

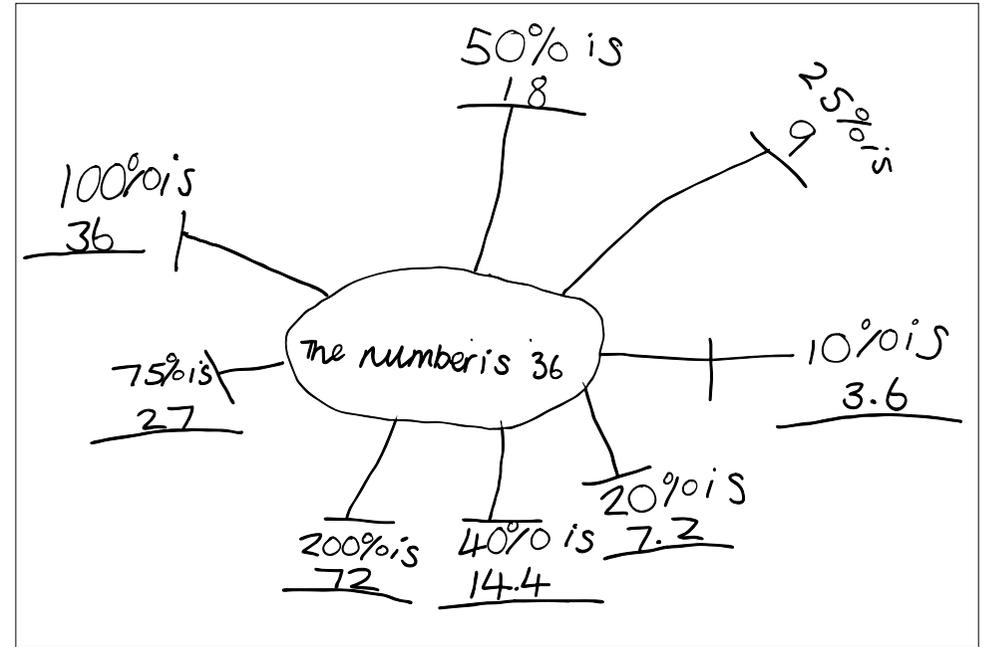
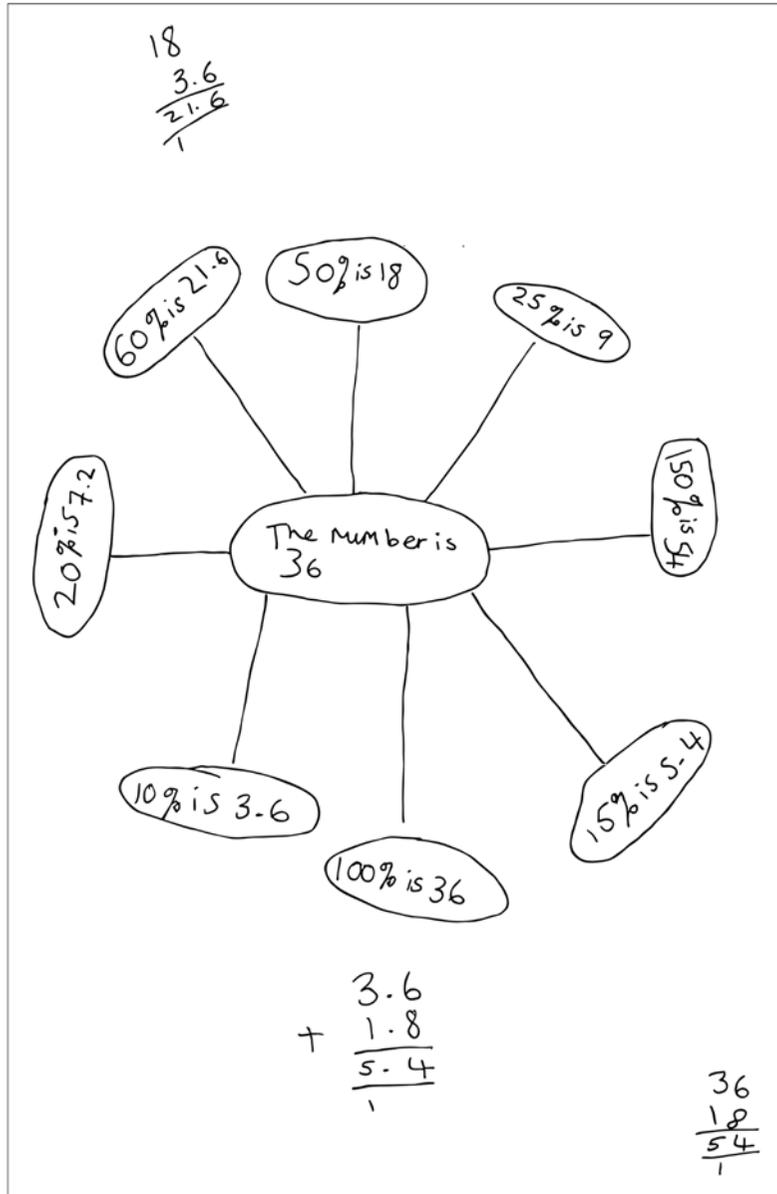
What's missing? sheet 1 (1st part)
Level 4



What's missing? sheet 1 (2nd part)
Level 4



What's missing? sheet 1 (2nd part)
Level 5



What's missing? sheet 2 (1st part)
Level 5

50% of it is 40 → the number is ...80...

200% of it is 30 → the number is ...15...

20% of it is 8 → the number is ...40...

40% of it is 28 → the number is ...70...

150% of it is 36 → the number is ...72...

25% of it is ...13... ← the number is 52 $4 \overline{)52}$

...40...% of it is 40 ← the number is 200

11% of it is ...16... ← the number is 150

...150...% of it is 77 ← the number is 44

90% of it is ...0.09... ← the number is 0.1

What's missing? sheet 2 (1st part)
Level 6

50% of it is 40 → the number is ...80...

200% of it is 30 → the number is ...15...

20% of it is 8 → the number is ...40...

40% of it is 28 → the number is ...80...

150% of it is 36 → the number is ...24...

25% of it is ...13... ← the number is 52

...20...% of it is 40 ← the number is 200

11% of it is ...165... ← the number is 150

...175...% of it is 77 ← the number is 44

90% of it is ...0.09... ← the number is 0.1

What's missing? sheet 2 (2nd part)
Level 5

The number is 38 → 50% is 19

The number is 38 → ~~100%~~⁴⁵% is 57

The number is 38 ¹⁵⁰ → 100% is 38

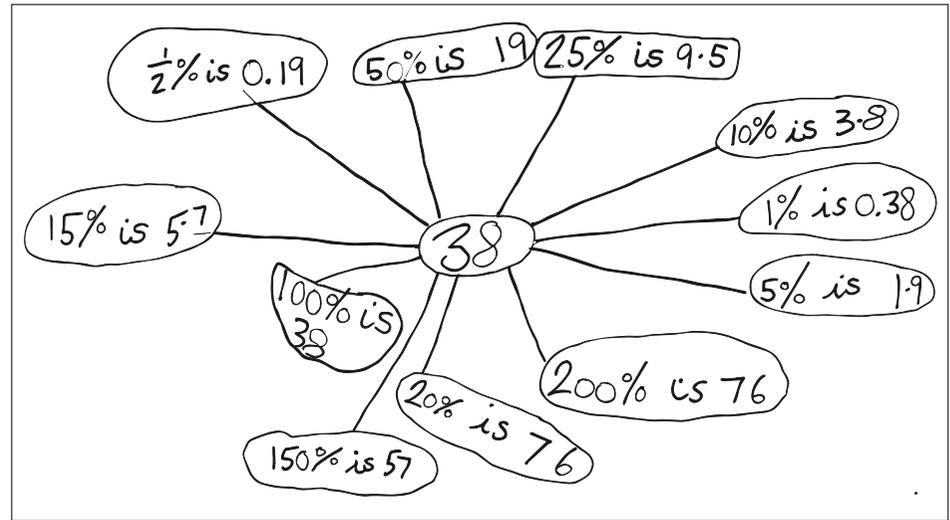
The number is 38 → 200% is 76

The number is 38 → 10% is 3.8

The number is 38 → 20% is 7.6

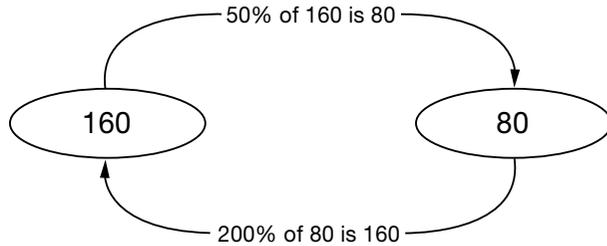
~~$\frac{38}{19}$~~
 $\frac{19}{19} = \frac{57}{57}$

What's missing? sheet 2 (2nd part)
Level 6



Doing and undoing
Level 5

Look at this diagram.



Does finding 200% of a number always 'undo' finding 50% of a number? *Yes*

How do you know?

Hint: you may find it helpful to write 50% as a fraction.

Because the number on the left is always double the number on the right and the number on the right is half the number on the left.

How do you 'undo' finding 25% of a number? or 20%? or $33\frac{1}{3}\%$?

<i>25%.</i> Find 50% and then halve the answer	<i>20%.</i> Find 100% and then divide the answer by 5.	<u><i>33 1/3%.</i></u>
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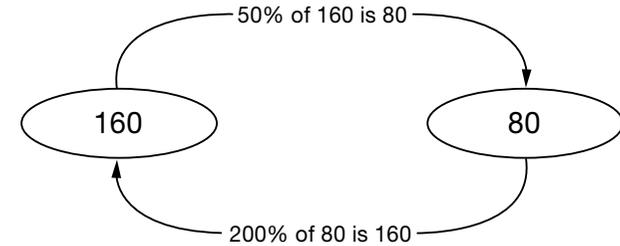
Each of the percentages used so far can be written as a fraction with a numerator of 1

How do you undo percentages that cannot be written as a fraction with a numerator of 1?

For example: 80%, 30%, $66\frac{2}{3}\%$, 150% and so on.

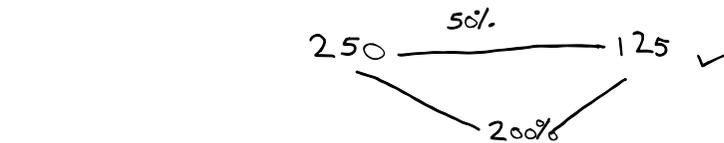
Doing and undoing
Level 6

Look at this diagram.

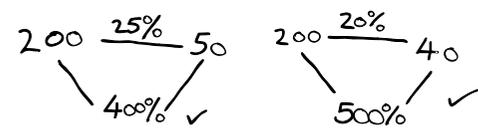


Does finding 200% of a number always 'undo' finding 50% of a number? *Yes*

How do you know? *because 5% divides by 2 and 200% multiplies by 2*



How do you 'undo' finding 25% of a number? or 20%? or $33\frac{1}{3}\%$?



Each of the percentages used so far can be written as a fraction with a numerator of 1

How do you undo percentages that cannot be written as a fraction with a numerator of 1?

For example: 80%, 30%, $66\frac{2}{3}\%$, 150% and so on.