Discussion Problems
Step 6: Percentages – Missing Values

National Curriculum Objectives:

Mathematics Year 6: (6R2) Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
Mathematics Year 6: (6F11) Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

About this resource:

This resource has been designed for pupils who understand the concepts within this step. It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More Year 6 Percentages resources.

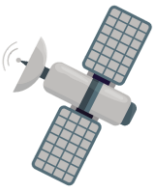
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Percentages – Missing Values

1. Alan the Alien is thinking of a number.

He says,





> **40% of the whole is less than 60.**
>
> **If you find 52% of the whole, it's greater than 40 but less than 100.**
>
> **12.5% of the whole will result in an even number with no decimal places.**

Using Alan's clues, explore the different possible numbers he could be thinking of.

DP

2. Match the statements below to the wholes. Fill in the blank cards so that each card is paired up correctly.

Statements:

Card A	Card B	Card C	Card D	Card E	Card F
36% = 540	37.5% = 172.5	11% = 178.2	?	?	?

Wholes:

Card G	Card H	Card I	Card J	Card K	Card L
?	1,620	460	1,500	?	964

Investigate the different cards that can be paired together.

DP

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Various answers, for example:
The whole could be 96. 40% of 96 = 38.4; 52% of 96 = 49.92; 12.5% of 96 = 12.
The whole could be 112. 40% of 112 = 44.8; 52% of 112 = 58.24; 12.5% of 112 = 14.

DP

2. Match the statements below to the wholes. Fill in the blank cards so that each card is paired up correctly.

Statements:

Card A	Card B	Card C	Card D	Card E	Card F
36% = 540	37.5% = 172.5	11% = 178.2	12.5% = 120.5	66% = 561	58% = 533.6

Wholes:

Card G	Card H	Card I	Card J	Card K	Card L
850	1,620	460	1,500	920	964

Investigate the different cards that can be paired together.

Various answers, for example: see above.
Card A, Card J; Card C, Card H; Card B, Card I; Card D, Card L; Card E, Card G; Card F, Card K.

DP

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