Reasoning and Problem Solving
Step 4: Percentage of an Amount 1

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

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Work out whether or not a percentage target has been met by various contributions. Includes finding 50% and 10%.
Expected Work out whether or not a percentage target has been met by various contributions. Includes finding 50%, 25%, 10% and 1%.
Greater Depth Work out whether or not a percentage target has been met by various contributions. Includes finding 50%, 25%, 10% and 1%, some conversions and decimal numbers.

Questions 2, 5 and 8 (Problem Solving)
Developing Change the percentage or the amount in a calculation to reach the target answer. Includes finding 50% and 10%.
Expected Change the percentage or the amount in a calculation to reach the target answer. Includes finding 50%, 25%, 10% and 1%.
Greater Depth Change the percentage or the amount in a calculation to reach the target answer. Includes finding 50%, 25%, 10% and 1%, some conversions and decimal numbers.

Questions 3, 6 and 9 (Reasoning)
Developing Give an example to show a statement about percentages can be true, or false. Includes finding 50% and 10%.
Expected Give a pair of examples which show a statement about percentages can sometimes be true and sometimes be false. Includes finding 50%, 25%, 10% and 1%.
Greater Depth Give a pair of examples which show a statement about percentages can sometimes be true and sometimes be false. Includes finding 50%, 25%, 10% and 1%, some conversions and decimal numbers.

More Year 6 Percentages resources.

Did you like this resource? Don't forget to review it on our website.

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1a. Ali wants to raise £40 for charity. He hopes to raise 50% of that total at a party. This is what people gave:

Person	Amount given
Rich Fella	10% of £80
Guy Withmoney	10% of £30
Lotta Cash	50% of £10

How much money did he raise?
Did he reach 50% of £40?

D ⭐

PS

1b. Leah wants to raise £6,000 for charity. She hopes to raise 10% of that total at a fundraising ball. This is what people gave:

Person	Amount given
Carrie Dollars	50% of £250
Bill Mybank	50% of £370
Angel Hinvesta	10% of £3,000

How much money did she raise ?
Did she reach 10% of £6,000?

D ⭐

PS

2a. Ollie and Shae are trying to get the largest answer. They can only change one part of the calculation below.

10% of 80kg = 8kg

• Ollie says, "I will find 10% of 100kg to make the larger answer."

• Shae says, "I will find 50% of 80kg to make the larger answer."

Who has made the largest answer?

D ⭐

PS

2b. Finn and Max are trying to get the smallest answer. They can only change one part of the calculation below.

50% of 110m = 55m

• Finn says, "I will find 10% of 110m to make the smaller answer."

• Max says, "I will find 50% of 50m to make the smaller answer."

Who has made the smallest answer?

D ⭐

PS

3a. Esme tried to calculate 10% of 500 but she has got the answer wrong.

She says,

> To find 10% of 500, I divided 500 by 2 and got 250 as an answer.

Explain Esme's mistake.

D ⭐

R

3b. Karl tried to calculate 50% of 700 but he has got the answer wrong.

He says,

> To find 50% of 700, I divided 700 by 10 and got 70 as an answer.

Explain Karl's mistake.

D ⭐

R

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4a. Tia wants to raise £500 for the church roof. She hopes to raise 25% of that total at a church fair. This is what people gave:

Person	Amount given
Owen Lotts	1% of £6,800
Penny Pincher	10% of £360
Noah Goodeal	50% of £66

How much money did she raise?
Did she reach 25% of £500?

PS

4b. Tom wants to raise £16,000 for a new library. He hopes to raise 1% of that total at a school fête. This is what people gave:

Person	Amount given
Milly Yonaire	25% of £180
Anna Notherquid	25% of £148
Landon Hisfeet	10% of £770

How much money did he raise?
Did he reach 1% of £16,000?

PS

5a. Shona and Toby are trying to get the largest answer. They can only change one part of the calculation below.

1% of 1,300cm = 13cm

• Shona says, "I will find 25% of 1,300cm to make the larger answer."

• Toby says, "I will find 1% of 3,200cm to make the larger answer."

Who has made the largest answer?

PS

5b. Theo and May are trying to get the smallest answer. They can only change one part of the calculation below.

25% of 500ml = 125ml

• Theo says, "If I find 25% of 200ml to make the smaller answer."

• May says, "I will find 1% of 500ml to make the smaller answer."

Who has made the smallest answer?

PS

6a. Raoul tried to calculate 25% of 608 but he has got the answer wrong.

He says,

> To find 25% of 608, I divided 608 by 2 and got 304 as an answer.

Explain Raoul's mistake.

R

6b. Josie tried to calculate 1% of 1,500 but she has got the answer wrong.

She says,

> To find 1% of 1,500, I divided 1,500 by 10 and got 150 as an answer.

Explain Josie's mistake.

R

7a. Dylan wants to raise £485 for charity. He hopes to raise 50% of that total at an art exhibition. This is what people gave:

Person	Amount given
Ruby Dealer	25% of £335
Liv Decadent-Lee	1% of £4,540
Max Profits	10% of £1,196

How much money did he raise at the party? Did he reach 50% of £485?

PS

7b. Sia wants to raise £1,610 for charity. She hopes to raise 25% of that total at a gala. This is what people gave:

Person	Amount given
Ivor Fortune	1% of £11,170
Kitty Isfull	1% of £16,320
Chase Wonga	50% of £255

How much money did she raise at the party? Did she reach 25% of £1,610?

PS

8a. Cal and Eva are trying to get the smallest answer. They can only change one part of the calculation below.

25% of 2.35km = 587.5m

• Cal says, "I will find 25% of 1.67km to make the smaller answer."

• Eva says, "I will find 1% of 2.35km to make the smaller answer."

Who has made the smallest answer?

PS

8b. Nia and Arlo are trying to get the largest answer. They can only change one part of the calculation below.

10% of 4.5cm = 4.5mm

• Nia says, "I will find 25% of 4.5cm to make the larger answer."

• Arlo says, "I will find 10% of 65.5cm to make the larger answer."

Who has made the largest answer?

PS

9a. Layla tried to calculate 50% of 9.4m in cm but she has got the answer wrong.

She says,

> To find 50% of 9.4m in cm, I divided 94cm by 2 and got 47cm as an answer.

Explain Layla's mistake.

R

9b. Aiden tried to calculate 25% of 0.45kg in g but he has got the answer wrong.

He says,

> To find 25% of 0.45kg in g, I divided 450g by 4 and got 225g as an answer.

Explain Aiden's mistake.

R

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Developing
1a. £16. No, he wanted to raise £20.
2a. Shae has made the larger number as 50% of 80kg = 40Kg. Ollie has made 10kg.
3a. Esme found 50% of 500 instead of 10% because she divided by 2. She should have calculated 500 ÷ 10 = 50.

Expected
4a. £137. Yes, she wanted to raise £125.
5a. Shona has made the largest number as 25% of 1,300cm = 325cm. Toby has made 320cm.
6a. Raoul found 50% of 608 instead of 25% because he divided by 2. He should have calculated 608 ÷ 4 = 152.

Greater Depth
7a. £248.75. Yes, wanted to raise £242.50
8a. Eva has made the smallest number as 1% of 2.35km = 23.5m. Cal has made 417.5m.
9a. Layla should have calculated 940cm ÷ 2 = 470cm.

Developing
1b. £610. Yes, she wanted to raise £600.
2b. Finn has made the smaller number as 10% of 110m = 11m. Max has made 25m.
3b. Karl found 10% of 700 instead of 50% because he divided by 10. He should have calculated 700 ÷ 2 = 350.

Expected
4b. £159. No he wanted to raise £160.
5b. May has made the smallest number as 1% of 500ml = 5ml. Theo has made 50ml.
6b. Josie found 10% of 1,500 instead of 1% because she divided by 10. She should have calculated 1,500 ÷ 100 = 15.

Greater Depth
7b. £402.40. No, she wanted to raise £402.50
8b. Arlo has made the biggest number as 10% of 65.5cm = 65.5mm. Nia has made 11.25mm.
9b. Aiden has only actually divided 450g by 2 as 450g ÷ 4 = 112.5g.