Mental Calculations

1a. Find a way to solve the calculations using mental calculations.

A. 354 x 7

B. 287 ÷ 7

Key Facts
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35

PS

1b. Find a way to solve the calculations using mental calculations.

A. 513 x 6

B. 246 ÷ 6

Key Facts
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30

PS

2a. Harry is solving the calculation 80 x 4 x 2.

> I did 80 x 4 = 32, then 32 x 2 = 64.

Is he correct? Convince me.

Key Facts
4 x 5 = 20, 4 x 6 = 24, 4 x 7 = 28
4 x 8 = 32, 4 x 9 = 36, 4 x 10 = 40

R

2b. Sumiya is solving the calculation 70 x 3 x 2.

> I did 70 x 3 = 210, then 210 x 2 = 410.

Is she correct? Convince me.

Key Facts
7 x 5 = 35, 7 x 6 = 42, 7 x 7 = 49
7 x 8 = 56, 7 x 9 = 63, 7 x 10 = 70

R

3a. Use rounding and estimation to find the odd one out.

£1,961 – £1,056

£2,000   £1,000

Explain your reasoning.

Key Facts
1,000 – 1,499 rounds down to 1,000
1,500 – 1,999 rounds up to 2,000

R

3b. Use rounding and estimation to find the odd one out.

£1,126 + £1,878

£3,000   £2,000

Explain your reasoning.

Key Facts
1,000 – 1,499 rounds down to 1,000
1,500 – 1,999 rounds up to 2,000

R

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4a. Find 2 different ways to solve the calculations using mental calculations.

A. 225 x 9

B. 4,880 ÷ 80

PS

4b. Find 2 different ways to solve the calculations using mental calculations.

A. 423 x 12

B. 4,260 ÷ 60

PS

5a. Steph and Joshua are solving the calculation 125 x 4 x 12.

Steph: I did 125 x 4 = 500, 500 x 10 = 5,000 and 5,000 x 2 = 10,000.

Joshua: I did 125 x 4 = 500, 500 x 10 = 5,000 and 500 x 2 = 1,000 then 5,000 + 1,000 = 6,000.
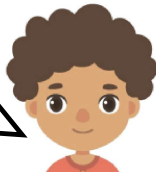
Who is correct? Convince me.

R

5b. Milly and Ivan are solving the calculation 150 x 7 x 20.

Milly: I did 150 x 20 = 3,000 then 3,000 x 7 = 21,000.

Ivan: I did 150 x 20 = 3,000 and 3,000 x 7 = 21,000 then 3,000 + 21,000 = 24,000.

Who is correct? Convince me.

R

6a. Find the approximate answer to the calculations to identify the odd one out.

A. £9,084.05 – £1,449.50

£8,500   £7,000   £7,500

B. £3,504.67 + £4,913.35

Explain your reasoning.

R

6b. Find the approximate answer to the calculations to identify the odd one out.

A. £7,496.12 – £4,518.92

£3,700   £4,500   £3,000

B. £2,139.95 + £1,602.10

Explain your reasoning.

R

Mental Calculations

7a. Find 2 different ways to solve the calculations using mental calculations.

> **A. 438 x nine ÷ 3**

> **B. 608 x eight ÷ 4**

PS

Mental Calculations

7b. Find 2 different ways to solve the calculations using mental calculations.

> **A. 403 x twelve ÷ 6**

> **B. 316 x two ÷ 8**

PS

8a. There are sixty crates which contain two hundred and fifteen eggs each. Three shop owners buy an equal amount each.

Lila is trying to work out how many eggs each shop owner had.

> I did 215 x 60 = 12,090, then 12,090 ÷ 3 = 6,030.

Lila

Is she correct? Convince me.

R

8b. There are forty jars containing one hundred and five sweets each. Seventy people buy an equal amount each.

Jason is trying to work out how many sweets each person had.

> I did 105 x 40 = 4,400, then 4,400 ÷ 70 = 70.

Jason

Is he correct? Convince me.

R

9a. Find the approximate answer to the calculations to identify the odd one out.

> **A. £3,712.59 + £4,279.36 – £2,462.08**

> **£5,500**   **£7,500**   **£6,600**

> **B. £9,304.12 – £4,291.38 + £1,613.84**

Explain your reasoning.

R

9b. Find the approximate answer to the calculations to identify the odd one out.

> **A. £4,419.24 + £2,657.95 – £1,503.49**

> **£7,100**   **£6,500**   **£5,600**

> **B. £8,604.91 – £2,991.04 + £1,499.85**

Explain your reasoning.

R

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Reasoning and Problem Solving – Mental Calculations – Year 6 Greater Depth