

Varied Fluency

Step 2: Mental Calculations

National Curriculum Objectives:

Mathematics Year 6: (6C6) [Perform mental calculations, including with mixed operations and large numbers](#)

Differentiation:

Developing Questions to support solving mental calculations involving addition, subtraction, multiplication and division with numbers up to 1,000.

Expected Questions to support solving mental calculations involving addition, subtraction, multiplication and division with numbers up to 10,000, including some decimal numbers.

Greater Depth Questions to support solving mental calculations involving addition, subtraction, multiplication and division with numbers up to 100,000, including decimal numbers.

[More resources](#) which follow the same small steps as White Rose.

Did you like this resource? Don't forget to [review](#) it on our website.

Varied Fluency – Mental Calculations

1a.

$$15 \times 19 = 285$$

Use this fact to calculate:

- a. $150 \times 19 =$
- b. $285 \div 19 =$
- c. $15 \times 190 =$



6 VF

1b.

$$17 \times 13 = 221$$

Use this fact to calculate:

- a. $170 \times 13 =$
- b. $221 \div 17 =$
- c. $17 \times 130 =$



6 VF

2a. Use mental calculations to find the odd one out.

- a. $950 - 125 =$
- b. $165 \times 5 =$
- c. $850 \div 10 =$



6 VF

2b. Use mental calculations to find the odd one out.

- a. $1,000 - 350 =$
- b. $75 \times 10 =$
- c. $25 \times 30 =$



6 VF

3a. Match the question to the correct answer.

a $78 \times 10 =$

500

b $125 \times 4 =$

225

c $675 \div 3 =$

780



6 VF

3b. Match the question to the correct answer.

a $38 \times 20 =$

270

b $27 \times 10 =$

30

c $750 \div 25 =$

760



6 VF

4a. Find the missing number:

$$48 \times 2 \times \text{blob} = 960$$



6 VF

4b. Find the missing number:

$$\text{blob} \times 4 \times 10 = 880$$



6 VF

Varied Fluency – Mental Calculations

5a.

$$24 \times 45 = 1,080$$

Use this fact to calculate:

- a. $240 \times 4.5 =$
- b. $1,080 \div 45 =$
- c. $24 \times 4,500 =$
- d. $1,080 \div 24 =$
- e. $240 \times 450 =$



6 VF

5b.

$$32 \times 64 = 2,048$$

Use this fact to calculate:

- a. $320 \times 64 =$
- b. $2,048 \div 64 =$
- c. $32 \times 6,400 =$
- d. $2,048 \div 32 =$
- e. $3.2 \times 640 =$



6 VF

6a. Use mental calculations to find the odd one out.

- a. $1,450 - 250 =$
- b. $60 \times 20 =$
- c. $1,200 \div 10 =$
- d. $\frac{1}{2}$ of $2,400 =$
- e. $\frac{1}{4}$ of $4,800 =$



6 VF

6b. Use mental calculations to find the odd one out.

- a. $4,800 - 200 =$
- b. $23 \times 20 =$
- c. $460 \times 10 =$
- d. $\frac{1}{2}$ of $9,200 =$
- e. double $2,300 =$



6 VF

7a. Match the question to the correct answer.

- | | | |
|---|-------------------|---------|
| a | $24 \times 100 =$ | $5,000$ |
| b | $125 \times 40 =$ | $2,400$ |
| c | $8,400 \div 8 =$ | $1,050$ |



6 VF

7b. Match the question to the correct answer.

- | | | |
|---|-------------------|---------|
| a | $32 \times 200 =$ | $2,050$ |
| b | $205 \times 10 =$ | $3,200$ |
| c | $9,600 \div 3 =$ | $6,400$ |



6 VF

8a. Find the missing number:

$$23 \times 2 \times \text{[pink blob]} = 2,300$$



6 VF

8b. Find the missing number:

$$\text{[teal blob]} \times 2 \times 10 = 6,400$$



6 VF

Varied Fluency – Mental Calculations

9a.

$$122 \times 32 = 3,904$$

Use this fact to calculate:

- $1,220 \times 32 =$
- $3,904 \div 32 =$
- $1.22 \times 320 =$
- $39,040 \div 320 =$
- $1.22 \times 3.2 =$



6 VF

9b.

$$98 \times 26 = 2,548$$

Use this fact to calculate:

- $9.8 \times 2.6 =$
- $2,548 \div 26 =$
- $9.8 \times 2,600 =$
- $2,548 \div 98 =$
- $980 \times 260 =$



6 VF

10a. Use mental calculations to find the odd one out.

- $3,075 - 525 =$
- $1,275 \times 20 =$
- $25,500 \div 10 =$
- $\frac{1}{2}$ of $5,100 =$
- $\frac{1}{4}$ of $10,200 =$



6 VF

10b. Use mental calculations to find the odd one out.

- $10,000 - 5,250 =$
- $19 \times 25 =$
- $475 \times 10 =$
- $\frac{1}{2}$ of $9,500 =$
- double $2,375 =$



6 VF

11a. Match the question to the correct answer.

- | | | |
|---|----------------------|----------|
| a | $9.2 \times 1,000 =$ | $30,000$ |
| b | $150 \times 200 =$ | $9,200$ |
| c | $105,000 \div 20 =$ | $5,250$ |



6 VF

11b. Match the question to the correct answer.

- | | | |
|---|-----------------------|----------|
| a | $14.5 \times 2,000 =$ | $17,500$ |
| b | $175 \times 100 =$ | 320 |
| c | $12,800 \div 40 =$ | $29,000$ |



6 VF

12a. Find the missing number:



$$\text{[Splat]} \times 20 \times 4 = 12,000$$



6 VF

12b. Find the missing number:



$$196 \times \text{[Splat]} \times 100 = 78,400$$



6 VF

Varied Fluency – Mental Calculations

Developing

1a. $a = 2,850$; $b = 15$; $c = 2,850$

1b. $a = 2,210$; $b = 13$; $c = 2,210$

2a. C is the odd one out. It has an answer of 85, the others have an answer of 825.

2b. A is the odd one out. It has an answer of 650, the others have an answer of 750.

3a. $a = 780$; $b = 500$; $c = 225$

3b. $a = 760$; $b = 270$; $c = 30$

4a. 10

4b. 22

Expected

5a. $a = 1,080$; $b = 24$; $c = 108,000$; $d = 45$; $e = 108,000$

5b. $a = 20,480$; $b = 32$; $c = 204,800$; $d = 64$; $e = 2,048$

6a. C is the odd one out. It has an answer of 120, the others have an answer of 1,200.

6b. B is the odd one out. It has an answer of 460, the others have an answer of 4,600.

7a. $a = 2,400$; $b = 5,000$; $c = 1,050$

7b. $a = 6,400$; $b = 2,050$; $c = 3,200$

8a. 50

8b. 320

Greater Depth

9a. $a = 39,040$; $b = 122$; $c = 390.4$; $d = 122$; $e = 3.904$

9b. $a = 25.48$; $b = 98$; $c = 25,480$; $d = 26$; $e = 254,800$

10a. B is the odd one out. It has an answer of 25,500, the others have an answer of 2,550.

10b. B is the odd one out. It has an answer of 475, the others have an answer of 4,750.

11a. $a = 9,200$; $b = 30,000$; $c = 5,250$

11b. $a = 29,000$; $b = 17,500$; $c = 320$

12a. 150

12b. 4