

ORDER OF OPERATIONS

Brackets

Indices

Division

* Multiplication

Addition

* Subtraction

1. Jenny is asked to find the value of $12 - 2 \times 4$

Here is her working.

$$12 - 2 \times 4 = 10 \times 4 = 40$$

Jenny's answer is wrong.

- (a) Explain what Jenny has done wrong.

$$12 - (2 \times 4) = 12 - 8 = 4$$

She should have multiplied first

(1)

Rehan is asked to find the range of the numbers 3 1 8 7 5

Here is his working.

$$\text{Range} = 5 - 3 = 2$$

Range = greatest - smallest
in list

This is wrong.

- (b) Explain why.

The range is the difference between the greatest and least values in the set.

(1)

(Total for Question is 2 marks)

2. (a) Work out $3 \times 5 + 7$

$$\begin{aligned} 3 \times 5 &= 15 \\ 15 + 7 &= 22 \end{aligned}$$

22 ✓

(1)

(b) Work out 2^3

$$\begin{aligned} 2^3 &= 2 \times 2 \times 2 \\ &= 4 \times 2 \\ &= 8 \end{aligned}$$

8 ✓

(1)

(c) Write brackets () in this statement to make it correct.

$$7 \times (2 + 3) = 35 \quad \checkmark$$

(1)

(Total for Question is 3 marks)

3. Alec needs to work out the value of $2 + 3 \times 4$

He writes

$$2 + 3 = 5 \text{ and } 5 \times 4 = 20, \text{ so } 2 + 3 \times 4 = 20$$

Alec is wrong.

Explain why.

Order of operations is wrong

BIDMAS

BODMAS

①

$$2 + (3 \times 4) = 2 + 12 = 14 \text{ which is what the answer}$$

Should be