

# Assessment in IGCSE Mathematics 0580

## Session 2: Handout 2.15(a)

### Questions and responses

**Question:**

Solve the simultaneous equations.  $2c + 5d = 49$   
 $3c + d = 15$

4 marks  
 (June 2002 paper 1)

**Mark scheme**

Mark scheme	Marks	Notes
$c = 2$ $d = 9$	4	M1 for multiplication and subtraction attempt A1 for first correct value M1 for substitution A1 for second value

**Answer – Candidate A:**

$$2c + 5d = 49 \quad (i)$$

$$3c + d = 15 \quad (ii) \quad (\times 5)$$

$$15c + 5d = 65 \quad (iii)$$

Subtract (iii) – (i)

$$13c = 16$$

$$c = 1.23$$

Substitute in (i)

$$2 \times 1.23 + 5d = 49$$

$$5d = 46.54$$

$$d = 9.308$$

**Answer – Candidate B:**

No working shown and

$$c = 9 \text{ and } d = 2 \quad \text{on answer line}$$

**Answer – Candidate C:**

$$2c + 5d = 49 \quad (1)$$

$$3c + d = 15 \quad (2)$$

$$c = 2$$

$$4 + 5d = 49$$

$$5d = 53$$

$$d = 10.6$$

## Assessment in IGCSE Mathematics 0580

### Session 2: Handout 2.15a (contd.)

#### Marks and comments

The question is a standard simultaneous equations question and the mark scheme should be applied consistently.

#### Comments:

#### Candidate A:           2 marks

The candidate has accessed the two marks for correct method shown. There is an error in multiplying by five, but the candidate earns mark for the method used in this attempt. The second method mark is earned for a correct substitution of the answer into one of the equations.

#### Candidate B:           0 marks

As the candidate has shown an answer only, we cannot consider part marks. Unfortunately, the values are given the wrong way round and the message to the candidate is to show working!

#### Candidate C:           3 marks

No method is shown for the first stage but a correct answer for  $c$ , earns both the first M and the first A mark. In cases like this we can imply that the candidate has used a correct method because of the correct answer.

The second M mark is also earned at the stage when the 2 is correctly substituted in to first equation. Subsequent errors spoil the final mark.