

**M1.**

$$5x - 3x \text{ or } 2x \text{ or } -3x + 5x \text{ or } -2x$$

$$\text{or } 7 + 6 \text{ or } 13 \text{ or } -6 - 7 \text{ or } -13$$

**M1**

$$2x = 13 \text{ or } -2x = -13$$

**A1**

$$\frac{13}{2} \text{ or } 6.5$$

oe

ft rearrangement with one error if M1 awarded

**A1ft****Additional Guidance**

Ignore further work after correct fraction

**[3]****M2.**

(a)  $4x - 5 = 15$

$4 \times 5 - 5 = 15$

$\text{or } 4 \times 5 = 20$

**M1**

$4x = 15 + 5$

$\text{or } 4x = 20$

oe

**M1dep**

5

*Strand (ii)**SC2 Answer 5 without algebra shown***Q1**

(b)  $5y - 7 = y + 3$

M1

$5y - y = 3 + 7$

or  $4y = 10$

oe

M1

(y =) 2.5

A1

their 2.5 + 3

or 5 × their 2.5 - 7

or 5.5

or 5.5 × 15

oe

*ft their y if clearly shown*

M1

82.5

A1

**Additional Guidance** $4 \times 2.5 = 10$ , 2.5 + 3 embedded value for y

M1M1A1M1A0

**[8]****M3.**

(a) Alternate

B1

(b)  $12x - 60 (= 2x + 100)$ *Expanding brackets*

B1

$3(4x - 20) = 2x + 100$

or  $12x - \text{their } 60 = 2x + 100$

M1

$12x - 2x = 100 + \text{their } 60$

or  $10x = 160$

oe

Collecting terms

M1dep

16

ft their expansion

A1ft

[5]

**M4.**

(a) **Alternative method 1**

$4x - 10$

B1

$6x - \text{their } 4x = \text{their } -10 - 4$

or  $2x = -14$

oe

$$\frac{\text{their } -10 - 4}{6 - \text{their } 4}$$

or  $\frac{-14}{2}$

M1

-7

ft their  $(4x - 10)$

A1ft

**Alternative method 2**

$3x + 2 = 2x - 5$

B1

their  $3x - 2x = -5 - \text{their } 2$

oe

M1

-7

ft their  $(3x + 2)$

A1ft

**Additional Guidance**

their  $(4x - 10)$  must be two terms with one correct to award the method mark

their  $(3x + 2)$  must be two terms with one correct to award the method mark

$$6x + 4 = 4x - 5, 2x = -9, x = -\frac{9}{2}$$

B0M1A1ft

$$3x + 4 = 2x - 5, x = -9$$

B0M1A1ft

$$6x + 4 = 22x - 25 \text{ (2 incorrect terms)}, 29 = 16x, x = \frac{29}{16}$$

B0M0A0

(b)  $2y - y^4$

*B1 each term*

*Do not ignore fw for B2*

B2

**Additional Guidance**

Do not accept  $y^2$

$$2y + -y^4$$

B1

$$2y - y^4 = y^3$$

B1

$$2 \times y - y^4$$

B1

$$y \times 2 - y \times y^3$$

B0

$$y^2 + -y^4$$

B0

[5]

**M5.**

$$6x - 4x \text{ or } 2x$$

or

$$4x - 6x \text{ or } -2x$$

M1

$$7 + 11 \text{ or } 18$$

or

$$-11 - 7 \text{ or } -18$$

M1

*For M1M1 the rearrangements must be a correct pair:*

$$6x - 4x \text{ or } 2x \text{ and } 7 + 11 \text{ or } 18$$

or

$$4x - 6x \text{ or } -2x \text{ and } -11 - 7 \text{ or } -18$$

9

ft M1M0 or M0M1 with one rearrangement or arithmetic error

A1ft

[3]

**M6.**  $5x - 3x$  or  $11 + 9$

Implied by  $2x$  or  $20$

M1

$$2x = 20$$

A1

10

ft on one error only

A1ft

[3]

**M7.(a)**  $2x(2x - 3y)$

B1 for correct partial factorisation

eg

$$2(2x^2 - 3yx)$$

$$\text{or } x(4x - 6y)$$

Do not accept further work

B2

(b)  $2w - 1 = 8 - 4w$

$$\text{or } \frac{2w}{4} - \frac{1}{4} = 2 - w$$

*Do not accept  $8w - 4 = 8 - 4w$*

**B1**

$$2w + 4w = 8 + 1$$

$$\text{or } \frac{2w}{4} + w = 2 + \frac{1}{4}$$

*ft their 4 terms*

**M1**

$$(w =) 1.5$$

*oe*

**A1ft**

**[5]**

**M8.** Setting up a correct equation

*eg*

$$7x - 19 = 4x + 2$$

$$\text{or } 7x - 19 = 6(x - 2)$$

**B1**

Collects their 4 terms

*eg*

$$7x - 4x = 2 + 19$$

**M1**

$$x = 7$$

**A1**

Verifies that one side is equal to 30

or setting up another correct equation

or substitutes their  $x$  into any expression and evaluates it correctly

*ft is only for their  $x = 7$*

**B1ft**

Verifies that all sides are equal

*eg*

*Solves A and B then:*

*calculates 3 sides including C and D*

*Solves A and B and A and C then:*

*calculates 2 sides including D*

*Solves A and B and C and D then:*

*calculates one side of each pair e.g. A and C*

*Solves any three pairs*

**A1**

**[5]**

**M9.**

(a)  $2x + 5$  **or**  $5 + 2x$

**B1**

(b)  $\frac{7x-5}{2x+5} = \frac{8}{3}$  **or**  $3(7x-5) = 8(2x+5)$

*oe e.g.  $(5x-10) \equiv 5$  parts and  $\frac{2x+5}{5x-10} = \frac{3}{5}$*

**M1**

$$21x - 15 = 16x + 40$$

*oe e.g.  $10x + 25 = 15x - 30$*

*Allow one error*

**M1**

$$x = 11$$

**M1**

$$99$$

*oe e.g. 77 in A and 22 in B*

*SC1 for correct answer with no algebra*

**A1**

**[5]**

**M10.7****B1**

$$3x - 7 = 11$$

**M1**

6

*Any order***A1**

$$3x - 7 = x + 4$$

**M1**

$$5.5 \text{ or } \frac{11}{2} \text{ or } 5\frac{1}{2}$$

**A1****[5]**

**M11.**
$$2x - 4 = x + 5$$

$$(P =) 2(2x - 4) + 2(x + 5)$$

$$\text{or } 6x + 2 \text{ oe}$$

**B1**

$$2x - x = 5 + 4$$

$$6x + 2 = 4(x + 5)$$

$$\text{or } 6x + 2 = 4(2x - 4)$$

**M1**

$$x = 9 \text{ or side} = 14$$

**A1**

(Perimeter =)  $4 \times \text{their } 14$

*Do not ft 4 x their x*

$$\text{or } 9 \times 6 + 2$$

M1

56

*Strand (iii)*

*Shows  $x = 9$  (and each side is 14 (cm)) and perimeter is 56 (cm)*

*56 without working implies B1M1A1M1*

Q1

[5]

**M12.**  $3x + 6 = 2x - 1$

$$x + 2 = \frac{2}{3}x - \frac{1}{3}$$

M1

$$3x - 2x = -1 - 6$$

*This mark is for rearranging their expansion correctly to get  $x$  terms on one side and number terms on the other*

$$x - \frac{2}{3}x = -\frac{1}{3} - 2 \text{ (oe)}$$

M1

-7

*ft on one error*

A1ft

[3]