

**M1.**

$$5x - 3x > 11 + 2$$

or  $2x > 13$

**M1**

$$x > 6.5$$

oe  
SC1 6.5

**A1**

**[2]**

**M2.**

$$4 < n \leq 8$$

or 9, 10, 11, 12, 13, 14, 15, 16  
or 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8  
or 4, 5, 6, 7, 8  
or 5, 6, 7  
or 10, 12, 14, 16

*Accept  $4 < n$  and  $n \leq 8$   
List of numbers in any order*

**M1**

$$5, 6, 7, 8$$

*Any order*

**A1**

**Additional Guidance**

Embedded answer fully correct  $2 \times 5 = 10, 2 \times 6 = 12, 2 \times 7 = 14, 2 \times 8 = 16$

**M1A0**

$$4, 5, 6, 7$$

**M0A0**

**[2]**

**M3.**

(a)  $6x - 3 + 2x - 6$   
or  $8x$  or  $-9$

*Allow one error***M1**

$8x - 9$

*Do not ignore fw***A1****Additional Guidance**

$8x + -9$

**M1A0**

4 correct terms seen

 $8x - 9$ , followed by an equation solved or unsolved**M1**

eg  $8x - 9 = -x$  or  $8x - 9 = 0$ ,  $8x = 9$ ,  $x = \frac{9}{8}$

**M1A0**

(b)  $\frac{3}{2} < n \leq 5$

or 2, 3, 4

or 2, 4, 5

or 2, 3, 5

or 3, 4, 5

or 1, 2, 3, 4, 5

or 2, 3, 4, 5, 6

**M1**

2, 3, 4, 5

*SC1 for 4, 5, 6, 7, 8, 9 and 10***A1****Additional Guidance**

4, 5, 6

**M0**

Embedded answers are ambiguous so M0

**M0**

(c)  $12x - 20$

oe

$\frac{22}{4}$  or 5.5

$$\text{or } 3x - 5 = \frac{22}{4}$$

$$\text{or } x - \frac{5}{3} = \frac{22}{12}$$

B1

$$12x = 22 + 20$$

$$\text{or } \textit{their } 12x = 22 + \textit{their } 20$$

oe

$$3x = \textit{their } \frac{22}{4} + 5$$

$$\text{or } x = \frac{22}{12} + \frac{5}{3}$$

M1

$$\frac{42}{12} \text{ or } \frac{7}{2} \text{ or } 3.5$$

oe

*ignore fw**On ft accept answers to 1dp or better*

A1ft

**Additional Guidance**

$$12x - 5 = 22, 12x = 22 + 5, x = \frac{27}{12}$$

B0M1A1ft

$$12x - 20 = 22, 12x = 22 + 20, x = \frac{44}{12}$$

B1M1A0

$$7x - 9 = 22, 7x = 22 + 9, x = \frac{31}{7}$$

B0M1A1ft

$$12x - 20 = 22, 12x = 44, x = \frac{44}{12}$$

B1M0A0

T&amp;I scores 3 or 0

[7]

**M4.**(a) **Alternative Method 1**

$$3x - 6$$

B1

$$3x = 21 + \text{their } 6$$

$$\text{or } 3x = 27 \text{ or } x = \frac{27}{3}$$

M1

9

*ft from B0 their  $3x - 6$  from expanding with a term in  $3x$*

A1ft

**Alternative method 2**

$$x - 2 = 7$$

B1

$$x = \frac{21}{3} + 2 \text{ or } x = \text{their } 7 + 2$$

M1

9

*ft from B0 their 7 with division seen*

A1ft

**Additional Guidance**

Answer 9 with no working or no incorrect working

B1M1A1

*ft their  $3x - 6$  must be following an attempt at expanding with a term in  $3x$*

$$\text{e.g. } 3x - 2 = 21$$

$$3x = 23$$

$$x = \frac{23}{3}$$

B0M1A1ft

$3x = 23$  without expanding

$$x = \frac{23}{3}$$

B0M0A0ft

If *ft* answer simplifies to an integer this must be seen for A1ft, but if not an integer then mixed number or improper fraction is acceptable

(b)  $8x - 6x$  or  $2x$

M1

$12 + 7$  or  $19$

M1

$x > 9.5$

oe

*ft correct inequality for their  $2x$  and their  $19$  with M1M0 or MOM1 awarded and only one error*

*SC2 9.5 in final answer*

A1ft

**Additional Guidance**

Final answer must have correct inequality

$2x > 19$

$x > 9.5$

final answer  $9.5$  or  $x = 9.5$

M1M1A0

$2x = 19$

$x = 9.5$

M1M1A0

[6]

**M5.=**

B1

>

B1

>

B1

[3]

**M6.**

$2 < x$

$$x \leq 7$$

B1

B1

3, 4, 5, 6, 7

*ft their double-sided inequality*

*Correct answer scores all 3 marks*

SC2 3, 4, 5, 6, 7 with one incorrect answer or any four of 3, 4, 5, 6, 7 with no incorrect answers

SC1 any four of 3, 4, 5, 6, 7 with one incorrect answer or any three of 3, 4, 5, 6, 7 with no incorrect answers

B1ft

[3]

**M7.**

$$(20 + w <) 3w + 6$$

M1

$$20 - \text{their } 6 < 2w$$

oe

M1

$$w > 7 \quad \text{or} \quad 7 < w$$

*ft from one error*

A1ft

[3]

**M8.(a)**  $5x \geq 29 + 11$

$$\text{or } x - \frac{11}{5} \geq \frac{29}{5}$$

$$\text{or } x \geq \frac{40}{5}$$

oe

M1

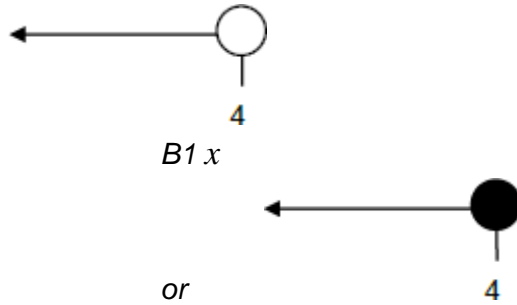
$$x \geq 8$$

SC1 8

SC1  $x \geq 3.6$  or  $x \geq 3\frac{3}{5}$

A1

(b)

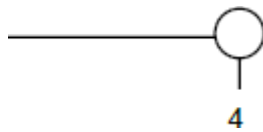


condone missing arrow for B2 or B1

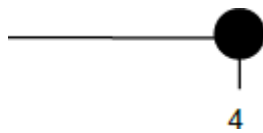
B2

**Additional Guidance**

Intention must be clear to indicate  $x$



Is B2



implies

is B1

[4]

**M9.(a)** Open circle at  $-2$  with line going right to at least 4

or

arrow (of any length) to the right

Strand (i)

If line is marked with any sort of circle at the RHS this is Q0

Q1

(b)  $3x \leq 11 - 5$  or  $3x \leq 6$  or  $x - 2 \leq 0$

*Working with = sign must be recovered to  $\leq$  to gain any credit*

M1

$x \leq 2$

*Must have  $x \leq$  on answer line*

*SC1 for  $x < 2$*

A1

[3]

**M10.**

$3x > 13 + 5$

*oe*  $3x > 18$

$3x - 18 > 0$

$x - 6 > 0$

$x > \frac{18}{3}$

M1

$x > 6$

*SC1*  $x \geq 6$

A1

[2]

**M11.**

$3 \leq n$

B1

$n < 7$

B1



3, 4, 5, 6

*ft their double-sided inequality*

*Correct answer gets 3 marks*

*ft their inequality*

*SC2 3, 4, 5, 6 with one incorrect answer or any three of 3, 4, 5, 6 with no incorrect answers*

*SC1 any two of 3, 4, 5, 6 with no incorrect answers or any three of 3, 4, 5, 6 with one incorrect answer*

B1ft

[3]

**M12.**

$$5d - d > 17 + 3$$

*Allow one sign or arithmetic error*

*e.g.  $4d > 21$  or  $5d - d > 17 - 3$*

M1

$$d > 5$$

A1

[2]

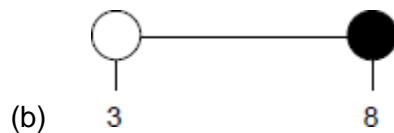
**M13.(a)**  $4x \leq 13 + 7$  or  $x - \frac{7}{4} \leq \frac{13}{4}$  oe

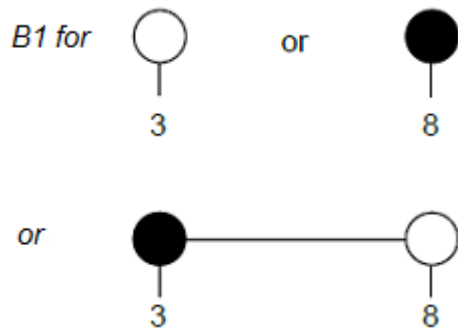
M1

$$x \leq 5$$

*SC1  $x < 5$  or  $x = 5$  or  $x \geq 5$*

A1





B2 [4]

M14.

$$2n \leq 15 \leq 1$$

$$\text{or } 2n \leq 14$$

$$2n \leq 14 \leq 0$$

$$n \leq 7 \leq 0$$

$$n \leq \frac{14}{2}$$

$$n \leq 7$$

M1

$$n \leq 7$$

$$\text{SC1 } n < 7$$

A1 [2]

M15.

(a)  $-17 - 3 \leq 4x < 11 - 3$

$$-20 \leq 4x < 8 \text{ or } -5 \leq x \text{ or } x < 2$$

M1

$$-5 \leq x < 2$$

A1

(b)  $-5(x) - 4(x) - 3(x) - 2(x) - 1(x) 0(x) 1$

Allow one error if subsequent product is correct

M1

Correct and complete list and 0

*ft their (a) with at least two integers to multiply, at least one of which is negative or zero*

SC1 0

A1ft

[4]