Q1.

(a) $(x - 10)(x + 10)$

either order
ignore fw

B1

Additional Guidance

$(x + 10)(x + -10)$

B1

Condone missing bracket at end only

$(x - 10)(x + 10$

B1

$(x - 10(x + 10)$

B0

$(x - 10)(x + 10)$ followed by attempt to solve, e.g. answer $x = 10$, $x = -10$

B1

answer only $x = 10$, $x = -10$

B0

(b) $7x - 2x > 1 - 6$ or $5x > -5$

or $6 - 1 > 2x - 7x$ or $5 > -5x$

or $1 > -x$

oe
collecting terms

M1

$x > -1$ or $-1 < x$

SC1 incorrect sign e.g. $x \geq -1$ or $x = -1$
or answer of −1

A1

Additional Guidance

Answer $x > \frac{-5}{5}$

M1A0

Answer only $\frac{-5}{5}$

SC0

x > −1 with -1 or 0, 1, 2, ….. as the answer

M1A0

[3]

Q2.

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

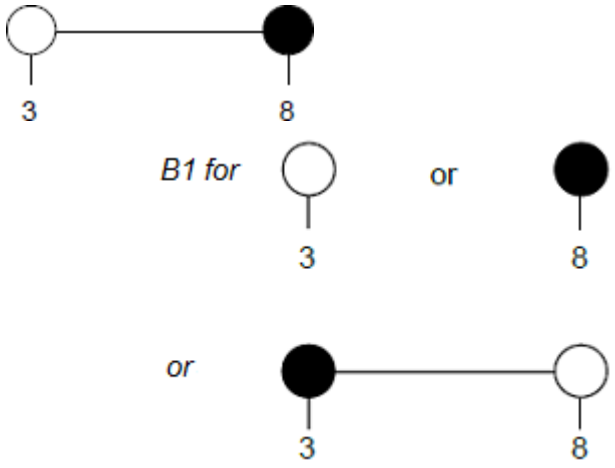
M1

$x \leq 5$

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

A1

(b)



B2

[4]

Q3.

(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 ≤ to gain any credit

M1

$x \leq 2$

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

SC1 for $x < 2$

A1

[3]

Q4.

(a) $4x + 12 = 17$ or $x + 3 = \frac{17}{4}$

4x + 3 = 17 is M0

M1

$4x = 17 - 12$ or 5 or $x = \frac{17}{4} - 3$

for correct rearranging

4x = 17 − 3 is M1

4x = 17 + 12 is M0

M1

$x = 1\frac{1}{4}$

oe ft if M1 M0 or M0 M1 awarded

A1 ft

(b) $2n > 5 + 1$ or $2n > 6$

M1

$n > 3$

n = 3 is A0

A1

[5]

Q5.

−3, −2, −1, 0, 1, 2

One error or omission B1

−4 < n ≤ 2 B1

B2

[2]

Q6.

$3 \leqslant n$

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]

Q7.

(a) $5x \geq 29 + 11$

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

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)

B1 $x < 4$

or

condone missing arrow for B2 or B1

B2

Additional Guidance

Intention must be clear to indicate $x < 4$ with minimum of a line drawn to the left of hollow circle positioned at 4

Is B2

implies

is B1

[4]

Q8.

$3x > 13 + 5$

oe $3x > 18$

$3x - 18 > 0$

$x - 6 > 0$

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

M1

$x > 6$

SC1 $x \geq 6$

A1

[2]

Q9.

3x < −9 or $x < -3$

oe

M1

−4

SC1 For $x \leq -4$

A1

[2]

Q10.

(a) $\frac{6}{3} \leq w < \frac{18}{3}$ **or** $2 \leq w$ ..... **or** .....$w < 6$

M1

$2 \leq w < 6$ **or** $2 \leq w \leq 5$

A1

2 3 4 5

ft M1 A0 and inequality of form $a \leq w < b$ or $a \leq w \leq b$
SC2 Answer 2 3 4 5 6 or 3 4 5 with M0
SC1 Answer 6 9 12 15 with M0
SC1 $\frac{6}{3} \leq w < \frac{18}{3}$

A1ft

(b) 16

B1

(c) their min from (a) − 3

M1

−1

ft their min from (a)

A1ft

[6]

Q11.

$5d - d > 17 + 3$

Allow one sign or arithmetic error
e.g. $4d > 21$ or $5d - d > 17 - 3$

M1

$d > 5$

A1

[2]

Q12.

$-4 < x \leq 5$

B1

[1]

Q13.

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

M1

$20 -$ their $6 < 2w$

oe

M1

$w > 7$ or $7 < w$

ft from one error

A1ft

[3]

Q14.

(a) $5x < 6 + 2$

or $5x < 8$

$\frac{8}{5}$ *or 1.6 seen*

oe

M1

$x < \frac{8}{5}$

oe

A1

Additional Guidance

Sight of 1.6 or $\frac{8}{5}$ score M1

(b) 2, 3, 4, 5, 6

B1 for one extra or one missing

eg

2, 3, 4, 5

1, 2, 3, 4, 5, 6

2, 3, 4, 5, 6, 7

2, 3, 5, 6

B2

[4]