

TAKE 5 ... LINEAR INEQUALITIES

Q1.

Question	Working	Answer	Mark	Notes
(a)		-1, 0, 1, 2, 3	2	B2 for all 5 correct values; ignore repeats, any order (B1 for 4 correct (and no incorrect values) eg. 0, 1, 2, 3 or one additional value, eg -1, 0, 1, 2, 3, 4)
(b)		$-4 < x \leq 3$	2	B2 for $-4 < x \leq 3$ or > -4 and ≤ 3 (B1 for $-4 < x$ or $x > -4$ or $x \leq 3$ or $3 \geq x$ or > -4 or ≤ 3 or $-4 \leq x < 3$) (NB Accept the use of any letter)
(c)	$3y - 2 > 5$ $3y > 7$	$y > \frac{7}{3}$	2	M1 for clear intention to add 2 to both sides (of inequality or equation) or clear intention to divide all terms by 3 or $3y > 7$ or $3y < 7$ or $3y = 7$ A1 $y > \frac{7}{3}$ or $y > 2 \frac{1}{3}$ or $y > 2 \frac{2}{3}$ NB. final answer must be an inequality (SC B1 for $\frac{7}{3}$ oe seen if M0 scored)

Q2.

PAPER: IMA0/IF				
Question	Working	Answer	Mark	Notes
(a)		Diagram	2	B2 for fully correct solution with all three aspects with no ambiguity Aspect 1: circle at 3 Aspect 2: circle not shaded Aspect 3: arrow pointing left indicating extension beyond -4 or line extending beyond -4 (B1 for any two aspects)
(b)		$x \geq 5$	2	M1 for intention to add 7 to both sides (of inequality or equation) or to divide all 3 terms by 4 as a first step, or $(x \Rightarrow) 5$ A1 for $x \geq 5$ oe


Q3.

PAPER: IMA0_2H				
Question	Working	Answer	Mark	Notes
(a)		-4, -3, -2, -1, 0	2	B2 for all 5 correct values; ignore repeats, any order (B1 for 4 correct (and no incorrect) values or all 5 correct values and -5)
(b)		$x > 4\frac{1}{2}$	2	M1 for an attempt to expand brackets (eg $6 \times x - 6 \times 2$) or $6x - 12$ or for an intention to divide both sides by 6 as the first step or for $4\frac{1}{2}$ oe seen A1 for $x > 4\frac{1}{2}$ oe

Q4.

Question	Working	Answer	Mark	Notes
	$3x > 11$ $x > \frac{11}{3}$ or 3.66.. OR $(16 - 5) \div 3$ $\frac{11}{3}$ or 3.66..	4	3	M1 $3x > 11$ or $3x > 16 - 5$ or $3x + 5 - 5 > 16 - 5$ A1 $\frac{11}{3}$ or 3.6(66..) or 3.7 (Accept = or \geq in place of $>$) B1 ft OR M1 $(16 - 5) \div 3$ A1 $\frac{11}{3}$ or 3.6(66..) or 3.7 B1 ft

Q5.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	$n > 2$	M1	for a method to isolate terms in n in any inequality or equation eg $14n - 11n > 6$ or $n = 2$	Ignore incorrect inequality sign and accept "=" sign
		A1	cao	
(b)		M1	for $-2 - 3 < x \leq 4 - 3$ ($-5 < x \leq 1$)	A circle around -5 and 1 implies M1
	-5 1	M1	for drawing a line from -5 to 1 or (indep) for an open circle at either -2 or -5 or (indep) for a closed circle at 4 or 1	A line from -5 to 1 implies M2 if no working shown
		A1	cao	