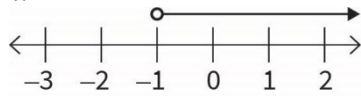
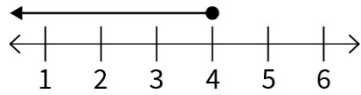
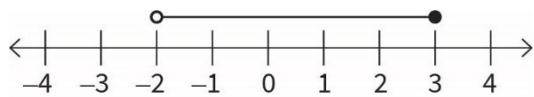
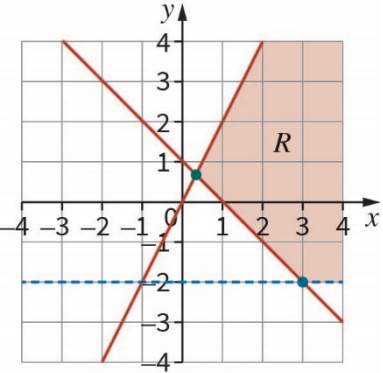


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Chapter 8 Solving inequalities in 1 or 2 variables

Question	Answer	Extra information	Marks
8.1 (a)	$3x + 5 > 2$ $3x > -3$ $x > -1$ 	$3x > -3$ or $3x = -3$ $x > -1$ Correct number line	1 1 1
8.1 (b)	$20 - 5x \geq 0$ $20 \geq 5x$ $5x \leq 20$ $x \leq 4$ 	$20 \geq 5x$ or $20 = 5x$ $4 \geq x$ or $x \leq 4$ Correct number line	1 1 1
8.2 (a)	$-6 < x - 4 \leq -1$ $-2 < x \leq 3$	$x > -2$ or $x \leq 3$ Correct answer	1 1
8.2 (b)			1

Question	Answer	Extra information	Marks
8.3	$4x + 1 \geq 3$ $5 - x > 3$ $4x \geq 2$ $5 > x + 3$ $x \geq \frac{1}{2}$ $x < 2$ $\frac{1}{2} \leq x < 2$	Solving one equality Solving the second inequality Correct answer	1 1 1
8.4 (a)	$x \leq 2$		1
8.4 (b)	$y < x + 1$		1
8.5	Draw the lines: $y < 2x, y \geq -2, x + y \geq 1$ 		3
8.6 (a)	$y < 4, y \geq x, y \geq 2 - x$		3

Question	Answer	Extra information	Marks
8.6 (b)	(1, 1), (0, 2), (1, 2), (2, 2), (-1, 3), (0, 3), (1, 3), (2, 3), (3, 3)		1
8.7	Let the number be n $\frac{n}{2} - 4 > 2n + 3$ $n - 8 > 4n + 6$ $-3n > 14$ $n < -\frac{14}{3}$ n must be less than this	$\frac{n}{2} - 4$ or $2n + 3$ Correct inequality A correct algebraic step Correct answer	1 1 1 1
8.8	Perimeter $x + x + (x + 4) + (x + 4) < 20$ $4x + 8 < 20$ $4x < 12$ $x < 3$	Attempt to find expression for the perimeter Inequality formed Simplified inequality Correct answer	1 1 1 1
8.9	First leg: distance = $\frac{25}{60} \times 24 = 10$ km Total time is $25 + 9 + 11 = 45$ minutes Total distance = $10 + 0 + 15 = 25$ km Average speed = $\frac{25}{0.75} = 33\frac{1}{3}$ km	Calculates distance of first leg Finds total time Finds total distance Finds average speed (must include the 9 minutes being stuck in traffic) Speed-time graph correctly drawn	1 1 1 1 1

Question	Answer	Extra information	Marks
8.10	An upwards-sloping line segment represents constant acceleration.	All the others are false.	1