This test is divided into non-calculator (40 minutes) and calculator (20 minutes) sections which can be delivered separately.

The following marks are awarded for each question.

B	Unconditional accuracy mark
M	Method mark – the correct method must be shown but there may be an arithmetic error; the sight of the value given in brackets implies the award of the method mark
A	Accuracy mark – unless the question specifies that working **must** be shown then the sight of the correct answer implies the award of full marks (unless the answer clearly comes from incorrect working)
C	Communication mark
P	Process mark to show correct process for problem solving. Any other process of a similar standard to achieve an accurate result is acceptable to achieve this mark
FT	Incorrect values may be **followed through** from one step to the next **provided** that the correct method is seen in each step and the only errors are arithmetic. This is shown in mark schemes by putting a number in inverted commas
OE	Or equivalent answer mark

Non-Calculator

Q	Answer	Mark	Comment
1	−2, −1, 0, 1	B2	B1 for −2, −1, 0, 1, 2 or any three correct with none incorrect, e.g. −1, 0, 1
2a	$x \geqslant 1$	B1	
2b	$-2 < x \leqslant 3$	B2	B1 for $-2 < x < 3$ or $-2 \leqslant x \leqslant 3$
3	3	M1	for $5x < 19 - 3$ OE; accept = or incorrect inequality symbol
		M1	for $x < (19 - 3) \div 5$ OE; accept = or incorrect inequality symbol, e.g. $x = \dfrac{16}{5}$
		A1	
4	6	M1	for $x > (13 - 3) \div 2$ OE; accept = or incorrect inequality symbol, e.g. $x = 5$
		M1	for $x < (26 + 2) \div 4$ OE; accept = or incorrect inequality symbol, e.g. $x = 7$
		A1	

Pearson Edexcel GCSE (9–1) Mathematics Higher

5	$x = -2,\ y = 1.5$	M1	for method to eliminate one variable e.g. $(6x + 4y = -6) - (6x + 18y = 15)$ and $14y = 21$; allow one arithmetic error
		M1	for method to find the other variable e.g. $3x + 2("21 \div 14") = -3$; allow one arithmetic error
		A1	for $x = -2$ and $y = 1.5$ OE, e.g. $\dfrac{3}{2}$
6	$x > -8$	M1	for correctly isolating the term in x in an equation or inequality, e.g. $-4x < 37 - 5$ or $x = -8$
		A1	
7a	$(x =)\ 5$	M1	for $(x + 3)(x - 2) = 24$
		M1	(indep) for expansion of brackets e.g. $x^2 - 2x + 3x - 6\ (= 24)$; condone one error
		M1	for $(x \pm 6)(x \pm 5) = 0$ or any method to solve for x
		A1	accept $(x =)\ 5$ and $(x =)\ -6$
7b	8 (cm) and 3 (cm)	B1	FT from $x = 6$, i.e. 9 and 4
8a	$(x =)\ 3$ and $(x =)\ -8$	M1	for $(x \pm 3)(x \pm 8)\ (= 0)$
		A1	
8b	$(x =)\ 5$ and $(x =)\ 6$	M1	for $(x \pm 5)(x \pm 6)\ (= 0)$
		A1	
9a	$p = -3,\ q = -6$	M1	for $(x - 3)^2 - 9 + 3$; allow one error with -9 or $+3$ or missing -9 or $+3$
		A1	accept $(x - 3)^2 - 6$
9b	$(x =)\ 3 \pm \sqrt{6}$	M1	for "$(x + p)^2$ " = "$-q$" e.g. $(x - 3)^2 = 6$
		M1	for "$(x + p)$" = $\sqrt{-q}$ e.g. $x - 3 = \sqrt{6}$
		A1	

10a	$2a + 3b = 4a - 3b$	B1	for $2a + 3b = 4a - 3b$ OE
	$a + 3 = 4b$	B1	for $a + 3 = 4b$ OE
10b	$a = 9$ and $b = 3$	M1	for method to eliminate one variable, e.g. $2(4b - 3) + 3b = 4(4b - 3) - 3b$; allow one error
		M1	for method to find the other variable, e.g. $a + 3 = 4 \times "3"$; allow one arithmetic error
		A1	

	⊞ Calculator		
11	$-\dfrac{9}{4} < x < \dfrac{14}{4}$	M1	for $-\dfrac{9}{4} < x$ OE or $x < \dfrac{14}{4}$ OE
		A1	for $-\dfrac{9}{4} < x < \dfrac{14}{4}$ OE
12	(coffee costs) £2.80 (tea costs) £1.50	M1	for setting up two equations, e.g. $2c + 3t = 10.1(0)$ and $3c + 5t = 15.9(0)$
		M1	for method to eliminate one variable e.g. $(6c + 9t = 30.3) - (6c + 10t = 31.8)$; allow one arithmetic error
		M1	for method to find the other variable, e.g. $2c + 3 \times "1.5" = 10.1$
		A1	must have appropriate units; working can be done in pence or £
13	($x =$) 0.298 and ($x =$) −1.44	M1	for $(x =)\dfrac{-8 \pm \sqrt{8^2 - 4(7)(-3)}}{2(7)}$ OE; allow one sign error
		M1	for simplification to $(x =)\dfrac{-8 \pm \sqrt{148}}{14}$
		A1	accept 0.297 to 0.298 and −1.44 to −1.441 with at least M1 scored; award no mark for answers only

14	(1, 18)	M1	for $x^2 + 3x + 5 = 5x + 13$ OE
		M1	for rearranging to $ax^2 + bx + c = 0$, e.g. $x^2 - 2x - 8 = 0$
		M1	for $(x \pm 4)(x \pm 2)$ OE or any method to solve for x
		A1	for (4, 33) and (−2, 3); could be in the form $x = ...$ $y = ...$
		M1	for method to find the midpoint or for $x = 1$ or for $y = 18$
		A1	accept $x = 1$ and $y = 18$

Non-Calculator

Question	Topic	Step	Mark
1	Write down whole number values that satisfy an inequality	6th	2
2a	Show inequalities on a number line	6th	1
2b	Show inequalities on a number line	6th	2
3	Solve simple linear inequalities in one variable and represent the solution on a number line e.g. $3n + 2 < 11$ and $2n - 1 > 1$	7th	3
4	Solve simple linear inequalities in one variable and represent the solution on a number line e.g. $3n + 2 < 11$	7th	3
5	Solve two linear simultaneous equations algebraically, where neither or one equation needs multiplying	8th	3
6	Know that when dividing an inequality by a negative number the inequality sign changes	7th	2
7a	Rearrange and solve equations involving square root of $(x \pm b)$	8th	4
7b	Rearrange and solve equations involving square root of $(x \pm b)$	8th	1
8a	Solve simple quadratic equations algebraically by factorising	8th	2
8b	Solve simple quadratic equations algebraically by factorising	8th	2
9a	Solve quadratic equations of the form $x2 + bx + c$ by completing the square	10th	2
9b	Solve quadratic equations of the form $ax2 + bx + c$ by completing the square	12th	3
10a	Set up and solve a pair of simultaneous equations in two variables	9th	2
10b	Set up and solve a pair of simultaneous equations in two variables	9th	3

Calculator

Question	Topic	Step	Mark
11	Solve more complex linear inequalities in one variable and represent the solution on a number line e.g. $-6 <$	8th	2
12	Make and solve simultaneous equations	9th	4
13	Solve simple quadratic equations by using the quadratic formula	10th	3
14	Solve exactly, by substitution, a pair of linear and quadratic simultaneous equations	12th	6

Pearson Edexcel GCSE (9–1) Mathematics Higher

Marks to Steps conversion table

The table below converts marks to a step on the Pearson progression scale. For more information on the progression service please see the progression website.

Mark boundary	Step
0	U
1	4th Step
2–5	5th Step
6–11	6th Step
12–19	7th Step
20–26	8th Step
27–33	9th Step
34–39	10th Step
40–48	11th Step
49–50	12th Step