This paper comprises of calculator questions only (50 marks/minutes).

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 the 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

Calculator

Q	Answer	Mark	Comment
1a	$y = 4$	B1	
1b	Correct line at $x = -2$	B1	
3a	(3, 4)	B1	
3b	Cross labelled M at (1, 1)	B1	
5	5p	M1	for method to find gradient between 200 and 500 minutes, e.g. 1500 ÷ 300 or 15 ÷ 300
		A1	or £0.05

7a	39.2	B1	allow answers in the range of 39.0 to 39.5
7b	Town A is colder with a temperature of 5°F or Town B is warmer with a temperture of 0°F	M1	for correct use of graph to convert either −15°C or 0°F
		A1	correctly converts −15°C to 5°F or 0°F to −17.75°C (accept −17.5 to −18)
		C1	correct comparison of relative temperatures with units correct, e.g. Town A is warmer with a temperature of 5°F or FT using their converted temperature with correct units
9a	Correct graph from (6 pm, 0) to (6.48 pm, 12) to (7.15 pm, 21)	M1	For method to find the distance cycled in 48 minutes, e.g. $\frac{48}{60}\times 15$ OE
		A1	Line drawn from (6 pm, 0) to (7.15 pm, 12)
		A1	Line drawn from "(6.48 pm, 12)" to (7.15 pm, "12" + 9)

9b	3 km	M1	0.25 × 12 OE, e.g. $\frac{(15\times 12)}{60}$
		A1	must have units
11	Correct line drawn from $(-2, 0)$ to $(4, 3)$	M1	M1 for a table of values with x from −2 to 4, and y from 0 to 3 increasing in halves with at least two correct y values or for line drawn with gradient of 0.5 or line drawn with positive gradient and y-intercept of 1
		M1	M1 FT for correctly plotting their points or for line drawn with gradient of 0.5 **and** a y-intercept of 1
		A1	
13	2.5	M1	for a method to find the gradient, e.g. $\frac{6-(-4)}{2-(-2)}$ or $\frac{10}{4}$ OE
		A1	2.5 OE

15	$y = 2x + 3$	M1	Method to find the gradient, e.g. $\frac{7-3}{2-0}$ OE
		M1	Method to find the y-intercept eg using $y = 2x + c$, $5 = 2 \times 1 + c$ oe
		A1	$y = 2x + 3$ oe in this format

Calculator

Question	Topic	Step	Mark
1a	Draw and recognise lines parallel to axes, and also $y = x$ and $y = –x$	5th	1
1b	Draw and recognise lines parallel to axes, and also $y = x$ and $y = –x$	5th	1
3a	Use conventions and notation for 2D coordinates in all four quadrants	4th	1
3b	Find the coordinates of the midpoint of a line from a given graph	6th	1
5	Interpret information from a complex real life graph (fixed charge/unit cost), read values and discuss trends	5th	2
7a	Use a conversion graph to convert between units	7th	1
7b	Use a conversion graph to convert between units	7th	3
9a	Draw distance–time graphs and velocity–time graphs	6th	3
9b	Interpret distance-time graphs	6th	2
11	Plot and draw graphs of straight lines without using a table of values (use intercept and gradient)	8th	3

13	Know that the gradient of a line is the change in y over change in x	7th	2
15	Find the equation of a straight-line from its graph	8th	3