1) C
2) D
3) C
4) D
5) A
6) D
7) D
8) B
9) A
10) D
11) D
12) C
13) D
14) C
15) A
16)

(a)	**(i)**	scatter of points (about the line)	B1	
	(ii)	intercept (on t^2 axis) *(note that answers must relate to the graph)*	B1	**[2]**
(b)	**(i)**	gradient = $\Delta y / \Delta x$ = (100 – 0)/(10.0 – 0.6)	C1	
		gradient = 10.6 (cm s^{-2}) *(allow ±0.2)*	A1	**[2]**
		(Read points to within $\pm\frac{1}{2}$ square. Allow 1 mark for 11 cm s^{-2} *i.e. 2 sig fig, -1. Answer of 10 scores 0/2 marks)*		
	(ii)	$s = ut + \frac{1}{2}at^2$	B1	
		so acceleration = 2 x gradient	B1	
		acceleration = 0.212 m s^{-2}	B1	**[3]**
		Total		**[7]**

17)

(a)		uses a tangent (anywhere), not a single point	C1	
		draws tangent at correct position	B1	
		acceleration = 1.7 ± 0.1 (*outside 1.6 → 1.8 but within 1.5 → 1.9, allow 1 mark*)	A2	[4]
(b)	**(i)**	because slope (of tangent of graph) is decreasing	M1	
		acceleration is decreasing	A1	[2]
	(ii)	e.g. air resistance increases (with speed) (angle of) slope of ramp decreases	B1	[1]
(c)	**(i)**	scatter of points about line	B1	[1]
	(ii)	intercept / line does not go through origin	B1	[1]

18)

$v^2 = u^2 + 2as$ OR use of triangle etc C1

$4.0^2 = 2 \times 9.8 \times s$ OR $s = ½ \times 4.0 \times 0.4$

$s = 0.82$ m OR 0.80 m ..... A1 [2]