Question Number	Answer		Mark
15(a)	Use of $W = m\,g$	(1)	
	Use of resultant force = push from trampoline – weight of gymnast	(1)	
	Use of $\Sigma F = m\,a$	(1)	
	$P = 1.4 \times 10^3$ N	(1)	4
	Example of calculation		
	$\Sigma F = P - W$		
	$m\,a = T - m\,g$		
	$58 \text{ kg} \times 14.2 \text{ m s}^{-2} = P - 58 \text{ kg} \times 9.81 \text{ N kg}^{-1}$		
	$P = 58 \text{ kg} \times (14.2 + 9.81) \text{ m s}^{-2} = 1.39 \times 10^3$ N		
15(b)(i)	$T = 68 \text{ N} \div \sin 14°$ **Or** $68 \text{ N} \div \cos 76°$	(1)	
	$T = 280$ (N)	(1)	2
	Example of calculation		
	$T = 68 \text{ N} \div \sin (14°) = 281$ N		
15(b)(ii)	Use of $F = k\,\Delta x$	(1)	
	$k = 6.1 \times 10^3 \text{ N m}^{-1}$ (allow ecf from (b)(i))	(1)	2
	Example of calculation		
	$F = 2.81 \times 10^2 \text{ N} = k \times 4.6 \times 10^{-2}$ m		
	$k = 2.81 \times 10^2 \text{ N} \div 4.60 \times 10^{-2} \text{ m} = 6.11 \times 10^3 \text{ N m}^{-1}$		
15(c)*	This question assesses a student's ability to show a coherent and logically structured answer with linkages and fully-sustained reasoning.		

Marks are awarded for indicative content and for how the answer is structured and shows lines of reasoning.

The following table shows how the marks should be awarded for indicative content and lines of reasoning.

IC points	IC mark	Max linkage mark available	Max final mark
6	4	2	6
5	3	2	5
4	3	1	4
3	2	1	3
2	2	0	2
1	1	0	1
0	0	0	0

	Marks
Answer shows a coherent and logical structure with linkages and fully sustained lines of reasoning demonstrated throughout.	2
Answer is partially structured with some linkages and lines of reasoning	1
Answer has no linkages between points and is unstructured	0