

**Forces and elasticity**

**Mark scheme**

- |    |   |   |     |
|----|---|---|-----|
| 1. | (a) <b>F</b> 50 cm on first part of graph<br><i>tolerance + <b>or</b> – 3cm</i>   | 1 |     |
|    | (b) <b>S</b> at the far right<br><i>credit anywhere to right of last trough</i>   | 1 |     |
|    | (c) <b>M</b> on any two tops of peaks <b>or</b> bottoms of troughs<br><i>both are required for the mark M needs to be central to the trough<br/><b>or</b> peak, except if F is in the way in one case</i> | 1 | [3] |
| 2. | (a) <b>B</b> or bungee cords  | 1 |     |
|    | <b>C</b> or springs or playground ride<br><i>each additional answer loses 1 mark minimum mark zero</i>  | 1 |     |
|    | will go back to original shape/size   | 1 |     |
|    | (b) (i) newton  | 1 |     |
|    | (ii) 0 – 5 (N) or 5<br><i>accept 1 – 5 (N)<br/>do <b>not</b> accept 4</i>   | 1 |     |
|    | (iii) 16 (cm)   | 1 |     |
|    | (iv) 2.5 (N)<br><i>accept answer between 2.4 and 2.6 inclusive</i>  | 1 | [7] |