

- M1.** (a) from K to L 1
- correct order only*
- The same as 1
- smaller than 1
- (c) 4 N 1
- (d) the limit of proportionality is reached when a weight of 7N is added to the spring
accept any number from 6.8 to 7.2 inclusive 1
- (e) the extension is directly proportional to the weight. 1
- (f) C 1

[7]

M2. (a) **B** or bungee cords

- 1
- C** or springs or playground ride
each additional answer loses 1 mark minimum mark zero
- 1
- will go back to original shape/size
- 1
- (b) (i) newton
- 1
- (ii) 0 – 5 (N) or 5
accept 1 – 5 (N)
*do **not** accept 4*
- 1
- (iii) 16 (cm)
- 1
- (iv) 2.5 (N)
accept answer between 2.4 and 2.6 inclusive
- 1

[7]

##

- (a) (i) plasticine stretches/snaps
stays stretched/snapped
for 1 mark each 2
- (ii) spring compresses OWTTE
returns to **original** length/shape or gets longer
for 1 mark each 2
- (iii) ruler bends/breaks
returns to original shape or stays broken
for 1 mark each 2
- (b) (i) 1.5N
for 1 mark 1
- (ii) 4 cm
for 1 mark 1
- (iii) 19 cm
for 1 mark 1

[9]

M4. (a) plasticine stretches/snaps

stays stretched/snapped/same
for 1 mark each

2

(b) spring compresses OWTTE
returns to original length/gets longer
for 1 mark each

2

[4]