OCR
Oxford Cambridge and RSA

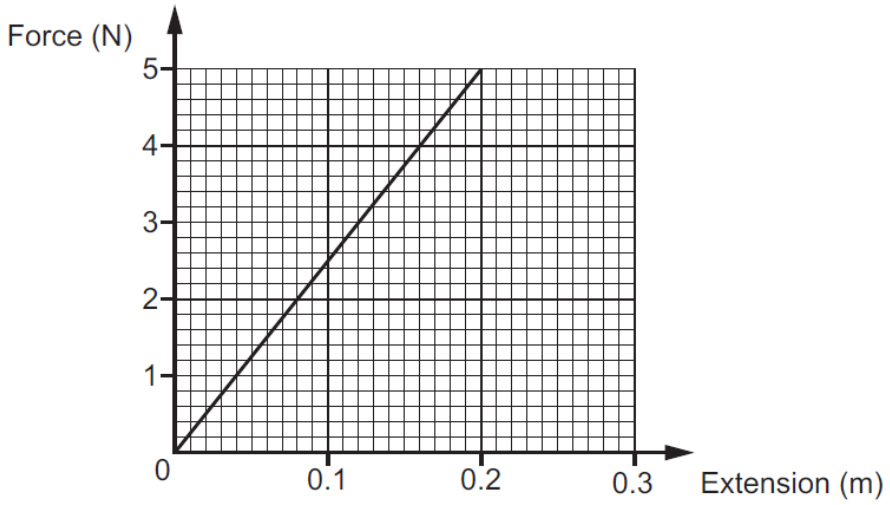
GCSE Physics A (Gateway)

J249/03 Physics A P1-P4 and P9 (Higher Tier)

Question Set 11

1 A student investigates how a spring stretches when a force is added.

Look at a graph of his results.



(a) Calculate the spring constant of the spring.

$F = kx$

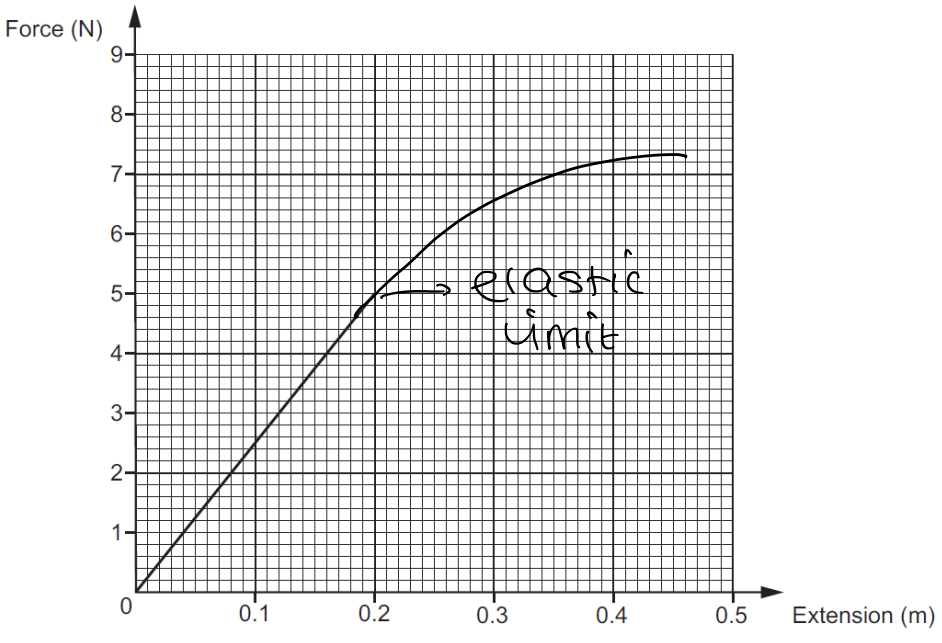
$\frac{5}{0.2} = k = 25$

Spring constant = 25 ..... N/m

[3]

The student continues to load the spring until it passes its elastic limit.

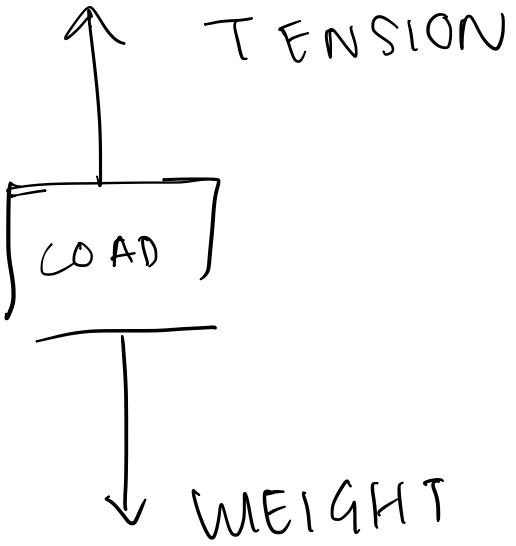
Complete the force-extension graph and label the elastic limit.



[2]

(c) The student puts a small load on the spring. It is in equilibrium.

Draw and label a free body force diagram for the load at the end of the spring.



[3]

Total Marks for Question Set 11: 8