DESIGN A ROLLER COASTER

Name:

Name of Coaster:

START

HEIGHT IN METRES (m)

100

80

60

40

20

0

B

A

C

END
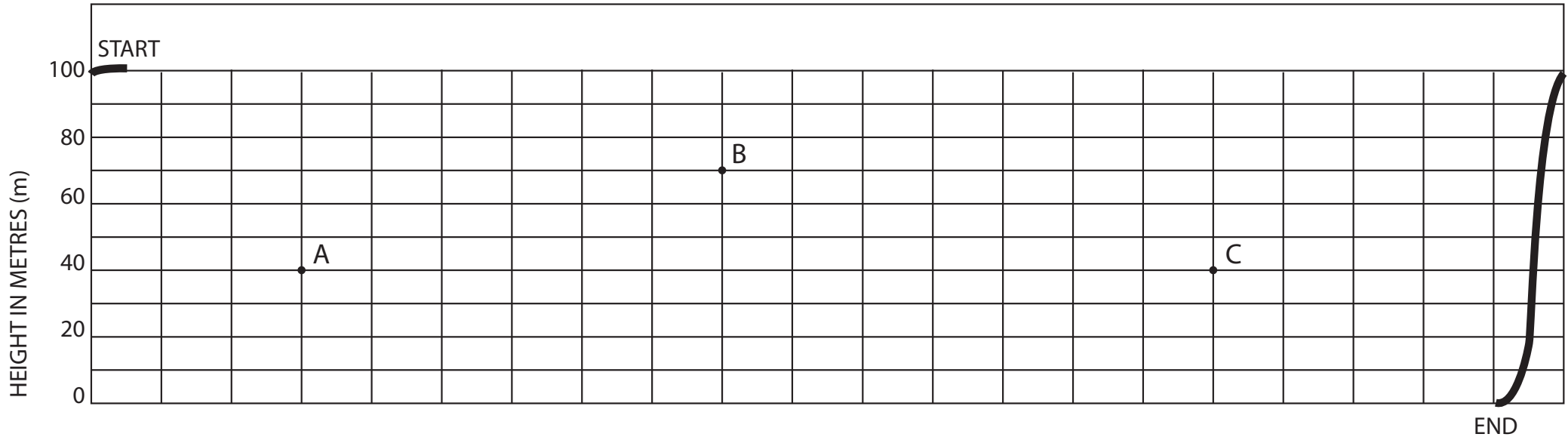
Design an exciting Roller Coaster by drawing in the track. Put in hills,valleys and perhaps a loop.
The track MUST pass through points A, B and C.
The total mass m of the cars and riders is 5000kg and g = 10m/s² or 10N/kg

REMEMBER

$GPE = mgh$

$KE = \frac{1}{2}mv^2$

1. Work out the total GPE at the start point.

2. Work out the GPE at points A, B and C.

3. Work out the KE at points A, B and C? (Hint - you've worked out the GPE at these points, take this from the total.)

4. Work out the velocity v at the end of the ride. (Rearrange the equation for KE to make velocity v the subject.)