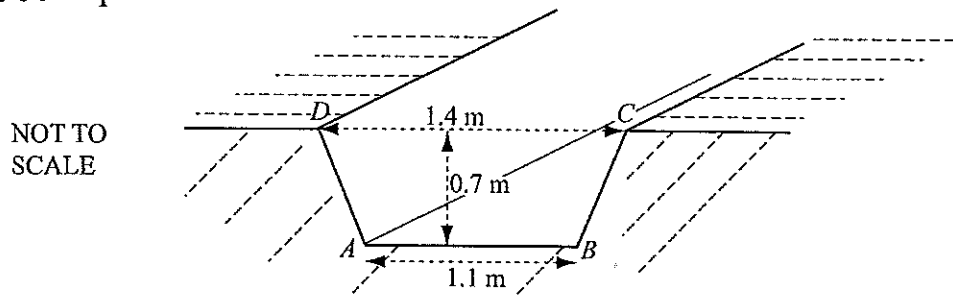


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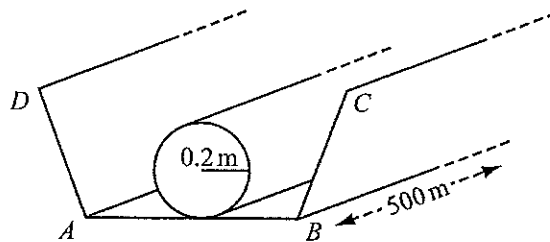
3 Workmen dig a trench in level ground.

Oct 06 Paper 4



- (a) The cross-section of the trench is a trapezium $ABCD$ with parallel sides of length 1.1 m and 1.4 m and a vertical height of 0.7 m.
Calculate the area of the trapezium. [2]
- (b) The trench is 500 m long.
Calculate the volume of soil removed. [2]
- (c) One cubic metre of soil has a mass of 4.8 tonnes.
Calculate the mass of soil removed, giving your answer in tonnes and in standard form. [2]
- (d) Change your answer to **part (c)** into grams. [1]

NOT TO SCALE



- (e) The workmen put a cylindrical pipe, radius 0.2 m and length 500 m, along the bottom of the trench, as shown in the diagram.
Calculate the volume of the cylindrical pipe. [2]
- (f) The trench is then refilled with soil.
Calculate the volume of soil put back into the trench as a percentage of the original amount of soil removed. [3]