Work Done

All answers to calculations should be to 2 significant figures.

Q1. Define the term work done.

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Q2. State the SI unit for work done

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Q3. Write down the formula which links distance, work done and force.

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Q4. Calculate the work done in lifting a box of 500N upwards to a height of 200cm.

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Q5. Calculate the force needed to supply 10kJ of energy to move an object over a distance of 4.5 m

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Q6. Calculate the distance an object would travel if a force of 10kN is applied and the energy transferred to the object is 9500J

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Q7.

15cm
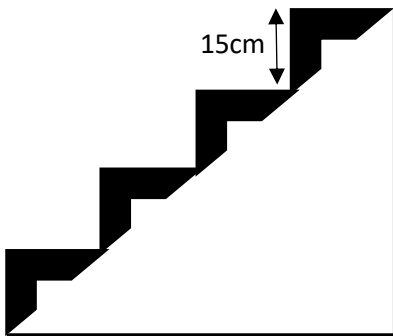
a. Sally has a mass of 45kg, calculate the work done in walking up the 4 steps on the staircase to the left. Assume that g = 10N/kg.

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b. Sally now needs to carry a box when she walks up the stair case which has a mass of 7.5kg. Calculate the work done when Sally carries this box up the staircase.

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c. Sally wonders if more work is done running or walking up the stairs. Help Sally to answer this question and explain your answer.

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Q8. A conveyor belt is lifting boxes from the ground floor to a higher platform.

9m
8m
4m
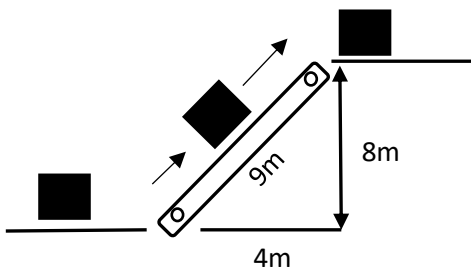
Each box has a mass of 25kg. Assume g = 10N/kg. Calculate the work done in lifting the box from the ground floor to the higher platform.

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