

Solutionbank M1

Heinemann Modular Maths for Edexcel AS and A-level

4 Forces

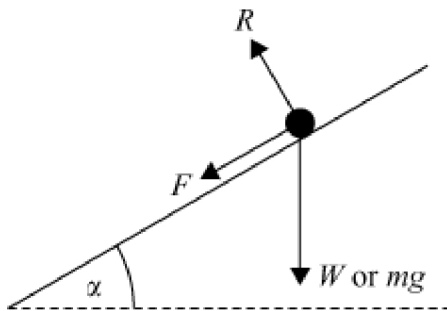
Exercise A, Question 1

Question:

Draw force diagrams which show all the forces acting on the particle involved in each of the following situations:

A particle sliding up a rough plane inclined at α to the horizontal.

Solution:



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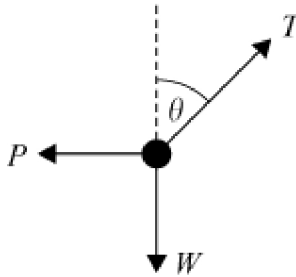
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Exercise A, Question 2

Question:

A particle of weight W N which is suspended from a fixed point by a string. The particle is held in equilibrium with the string at an angle θ to the vertical by a horizontal force P N.

Solution:



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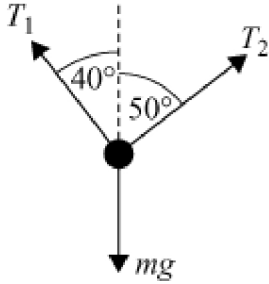
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Exercise A, Question 3

Question:

A particle of mass m kg hangs in equilibrium supported by two light inextensible strings, inclined at 40° and 50° to the vertical.

Solution:



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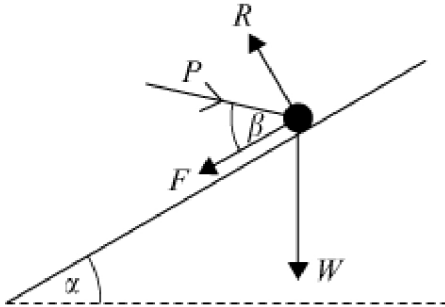
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Exercise A, Question 4

Question:

A particle pushed up a rough plane, inclined at α to the horizontal, by a light rod, that is itself at an angle β to the slope.

Solution:



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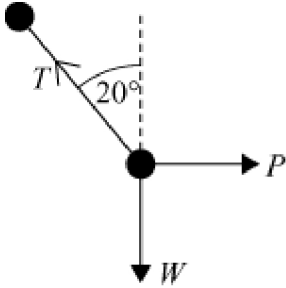
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Exercise A, Question 5

Question:

A particle of weight W N is attached to one end of a light rod. The other end of the rod is fixed. A horizontal force P pulls the particle sideways, so that the rod makes an angle of 20° with the vertical.

Solution:



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