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**Friction**

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| **Box on "rough" table, applied force** | **Box on "rough" table, applied force upward** |
| Q1) A 10 kg box rests on a rough table. The coefficient of friction between the two surfaces is μ = 0.15. The box is pulled by a 40 N applied force (F)  a) Draw a FBD of all the forces acting on the box  b) Write the ΣFy equation, and calculate N  c) Calculate f  d) Write the ΣFx equation, and calculate ax | Q2) A 10 kg box rests on a rough table. The coefficient of friction between the two surfaces is μ = 0.15. The box is pulled by a 40 N applied force (F) at a 30° angle above the horizon.  a) Draw a FBD of all the forces acting on the box  b) Write the ΣFy equation, and calculate N  c) Calculate Ff  d) Write the ΣFx equation, and calculate ax |

Q3) A 13.3 kg box is pulled across a rough table by a 75 N force at a 33° angle above the horizon. The coefficient of friction between the two surfaces is μ = 0.23.

a) Draw the FBD, and write the ΣFy and ΣFx

b) Calculate ax

a = 3.182 m/s2

Q4) A 8.8 kg box is pulled across a rough table by a 56 N force at a 44° angle above the horizon giving the box an acceleration of 2.17 m/s2.

a) Draw the FBD, and write the ΣFy and ΣFx

b) Calculate μ

μ = 0.447