K Education Centre

GCSE Physics Forces P8

Forces in Balance – Assignment 1

Assignment Questions

P8: Forces in Balance

Q: What are vectors and scalars? Give examples.

Q: What is Newton's third law of motion?

Q: What is resultant force? Explain with a free body diagram.

Q: Find the resultant force and its direction in following:

    a) When engine force is 3000 N in forward direction and Drag force is 1750 N in opposite direction.
    b) When push force on a box is 180 N and force of friction is 160 N.

Q: What is moment?

Q: A spanner of length 0.50 m is used to turn a nut. Calculate the force needed to be applied to end of spanner if moment of force exerted is 25 N/m.

Q: What are levers? Give example.

Q: A gear wheel of radius is 30 mm is used to turn another gear wheel of radius 15 mm with a force of 120 N.

Calculate the moment of force on:

    a. The 15 mm
    b. The 30 mm

Q: What is centre of mass? What is centre of mass of freely of suspended object.

Q: Find Weight of the beam.