Physics - Key Stage 4 - Forces

Moments and Gears

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OAK NATIONAL ACADEMY

Independent Practice

1. A force of 500N is applied to a gear (A) wheel of radius 0.25 m to turn another gear (B) wheel of radius 0.5 m radius. Calculate the moment of each gear.

2. A force of 125N is applied to a gear (A) wheel of radius 1 m to turn another gear (B) wheel of radius 0.5 m radius. Calculate the moment of each gear.

3. A force of 70N is applied to a gear (A) wheel of radius 0.10 m to turn another gear (B) wheel of radius 0.5 m radius. Calculate the moment of each gear.

Independent work

1.Describe how gear systems work.

2.Explain how the force can be multiplied by a gear system.

3.How much will a 48 : 12 gear ratio

a)speed up the rotation?

b)multiply the moment (careful)?