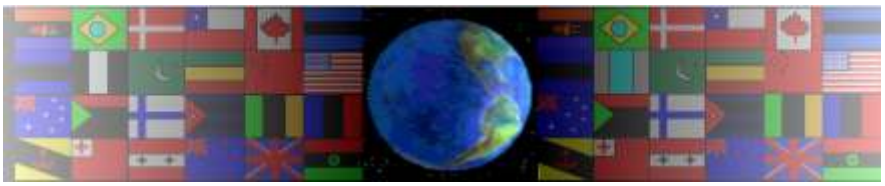
GEARS

On behalf of The World Association of Technology Teachers

W.A.T.T.



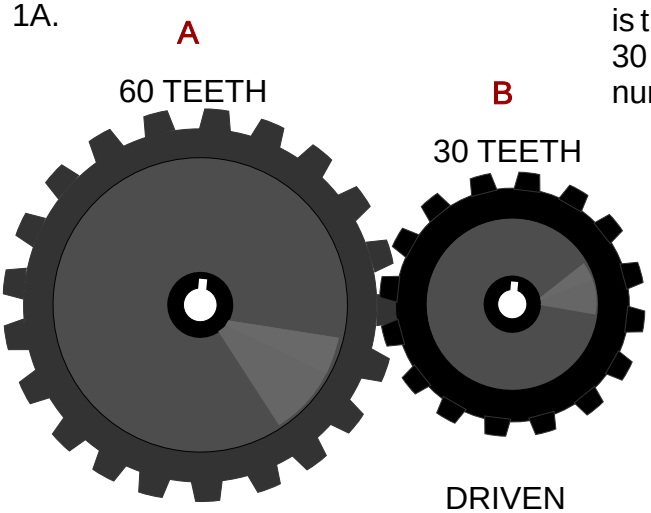
World Association of Technology Teachers

This ‘Exercise’ can be printed and used by teachers and students. It is recommended that you view (www.technologystudent.com) before attempting the worksheet .

GEAR RATIO (VELOCITY RATIO)

In examinations one of the first questions will probably for you to work out the 'gear ratio' (sometimes called velocity ratio). As a guide - always assume that the larger gear revolves one revolution. The number of rotations of the second gear has then to be worked out.

1A.



In the example below, the DRIVER has 60 teeth and because it is the largest we say that it revolves once. The DRIVEN gear has 30 teeth. Simply divide 60 teeth by 30 teeth to work out the number of revolutions of the driven gear.

GEAR RATIO / VELOCITY RATIO

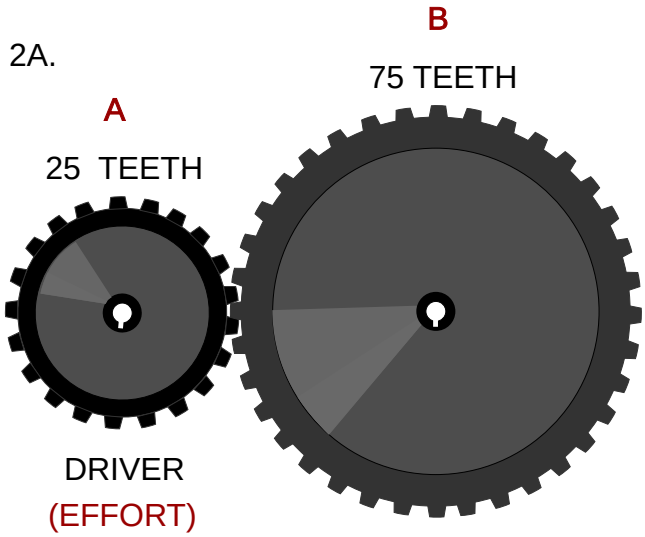
$$\frac{\text{Distance moved by Effort}}{\text{Distance moved by Load}} = \frac{\quad}{\quad}$$

$$= - = \frac{\text{Input movement}}{\text{Output movement}}$$

$$= \text{Driver} : \text{Driven}$$

$$:$$

2A.



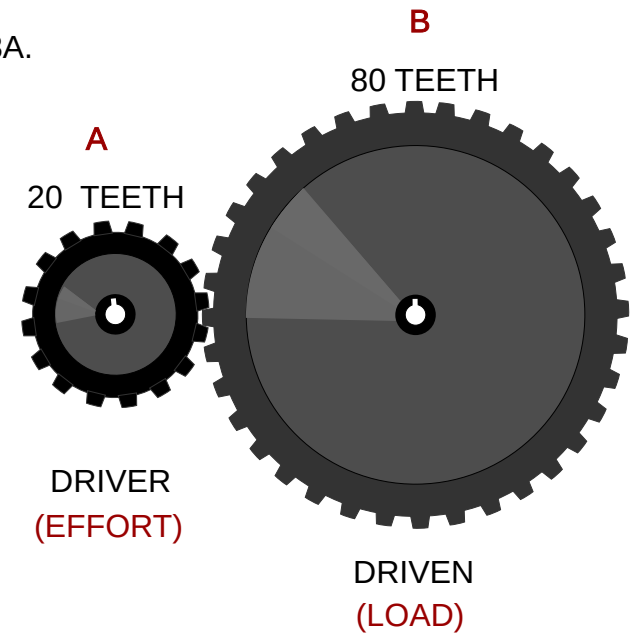
$$\frac{\text{Distance moved by Effort}}{\text{Distance moved by Load}} = \frac{\quad}{\quad}$$

$$= - = \frac{\text{Input movement}}{\text{Output movement}}$$

$$= \text{Driver} : \text{Driven}$$

$$:$$

3A.



$$\frac{\text{Distance moved by Effort}}{\text{Distance moved by Load}} = \frac{\quad}{\quad}$$

$$= - = \frac{\text{Input movement}}{\text{Output movement}}$$

$$= \text{Driver} : \text{Driven}$$

$$:$$