

*Dr Oliver*  
**Dr Oliver Mathematics**  
**Worked Examples**  
**Proportion 2**

**From:** Examples in Mathematics for GCSE (Higher Tier)

1. The force,  $F$ , acting on a mass moving in a circle varies directly as the square of its speed ( $v$ ) and inversely as the radius of the circle ( $r$ ) in which it moves.

Find the increase (or decrease) in the force  $F$  if

- (a) the speed is doubled and the radius is halved,
- (b) the speed is halved and the radius is doubled.

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