

1. [MGH 16]
The air resistance, R , is directly proportional to the square of the speed, V , of an object when it is falling. The air resistance is 24 newtons at a certain speed. Find the air resistance when the speed is increased by 50%. [2]
2. [AHS 18]
The surface area of a sphere is directly proportional to the square of its radius. If the radius increases by 15%, find the percentage increase in the surface area [2]
3. [BPGHS 18]
 p is directly proportional to q^2 . If q is decreased by 75%, find the percentage decrease in p . [2]
4. [CCHMS 18]
It is given that y is inversely proportional to the cube of x . If x is doubled, find the percentage decrease in y . [3]
5. [SCGS 18]
 P is proportional to the square root of Q . Find the percentage increase in P if Q is increased by 300%. [2]
6. [AHS 16 (modified)]
It is given that z^3 is inversely proportional to x . When $x = A$, a particular value of z is obtained. Find the percentage change in z when x is doubled. [2]

Answers

1. 54 newtons
2. 32.25%.
3. 93.75%.
4. 87.5%.
5. 100%.
6. -20.6%.