

Inverse Variation

THEORY QUESTIONS

1. x varies inversely as the square of y . If $x = 8$ when $y = 4$, find y when $x = 32$.
.....
2. Given that a varies inversely as b , and b varies directly as the square of c , and $a = 1$ when $c = 3$, find the value of a when $c = \frac{1}{3}$.
.....
3. A quantity q varies inversely as m and n varies directly as q^3 . Express n in terms of m given that $n = 1$ when $m = 2$.
.....
4. y varies inversely as x . If $y = 6$ when $x = 4$, find y when $x = 8$.
.....
5. The time t taken to complete a job varies inversely as the number of workers w . If 5 workers complete the job in 12 days, how many days will 8 workers take?
.....
6. p varies inversely as the square root of q . If $p = 10$ when $q = 4$, find p when $q = 25$.
.....
7. The speed v of a car varies inversely as the time t taken to cover a fixed distance. If the car travels at 60 km/h for 3 hours, find:
(i) the speed if the time taken is 4 hours.
(ii) the time taken if the speed is 90 km/h.
.....
8. r varies inversely as s . If $r = \frac{3}{5}$ when $s = 10$, find r when $s = 6$.
.....

ANSWERS

1. $y = 2$
2. $a = 81$
3. $n = \frac{8}{m}$
4. $y = 3$
5. $t = 7.5$ days
6. $p = 4$
7. (i) 45 km/h (ii) 2 hours
8. $r = 1$