VARIATIONS

Exercise 5.3

a) Given that y varies inversely as the square of x and $y = 1$ when $x = 4$, find the value of y when $x = 8$.

b) Given that $x \propto \frac{1}{y}$ and $x = 7\frac{1}{2}$ When $y = 4$, find the law connecting them.

Hence, find the value of x when $y = 12$ and also the value of y when $x = 20$.

c) Given that p is inversely- proportional to q and $p = 5/2$ when $q = 2$, find p when $q = 4$

d) Given that $x \propto \frac{1}{y^2}$ and $x = 8$ When $y = 2$, find x when p = 4.

e) If *α varies indirectly as b and a=3 when b=4, find the formula connecting them. Hence, find the value of y when x = 6.*

f) *Complete the following:*

i) $y \alpha \frac{1}{x} \Rightarrow x \alpha$ _____

ii) $x = kx^2 \Rightarrow x =$ _____

iii) $A \alpha V^{\frac{3}{2}} \Rightarrow V \alpha$ _____

iv) $T \alpha \sqrt{l} \Rightarrow l \alpha$ _____

v) $A \alpha r \Rightarrow r \alpha$ _____