1965

1. (*a*) What is the cost of :

(i) x things at y pence each ?
(ii) x things at 3 a penny ?
(iii) x things at y a penny ?
(iv) x things when y things cost 3 pence ?

(*b*) How far does a train travel

(i) in x hours at y miles per hour ?
(ii) in x minutes at y miles per hour ?
(iii) in x hours at y miles per minute ?
(iv) in 1 hour if it goes y miles in x minutes ?

[16 marks.]

2. (*a*) Find the value of $pa-pb+pc$ when $p=8{\cdot}4$, $a=47{\cdot}3$, $b=35{\cdot}9$ and $c=38{\cdot}6$.

(*b*) Factorize $(3a-2)^2-(2a-3)^2$.

[16 marks.]

3. (*a*) Find the sum of :—

$3(a+b)x-2(a-b)y$, $-2(a+b)x+9(a-b)y$, and $7(a+b)x-6(a-b)y$.

(*b*) Divide $apx+qx-5ap-5q$ by $x-5$.

[17 marks.]

4. (*a*) If $\frac{x-3}{4} - \frac{2(x-y)}{3} + \frac{x+9}{12} = 0$ prove that $x=2y$.

(*b*) Solve $\frac{x+1\cdot5}{1\cdot25} - \frac{x-2\cdot5}{2\cdot5} = 4\cdot2$.

[17 marks.]

5. (*a*) Simplify $\frac{(x^3+1)\ (x^3-1)}{(x^2+x+1)\ (x+1)}$.

(*b*) Divide the product of $(3x^2+8x-3)$ and $(x^2-3x-10)$ by $(x+3)\ (x-5)$.

[17 marks.]

6. A's age is equal to the sum of the ages of B and C. Ten years ago A was twice as old as B. Show that in ten years' time A will be twice as old as C.

[17 marks.]