1962

1. (*a*) Add $6x(x-1)^2$, $(3x+1)^2$ and $-2(8x^2+3)$.
   (*b*) Divide their sum by $2x-5$.

[16 marks.]

2. (*a*) Solve $1{\cdot}3 = 0{\cdot}02x - 0{\cdot}7$.
   (*b*) If $\frac{a-x}{3} = \frac{b-4x}{2} = 1$ when $x=2$, find the value of a^2-b^2.

[16 marks.]

3. Factorize :
   (*a*) $x^2 - 16(x-4)$;
   (*b*) $12x^2 - x - 20$;
   (*c*) $(x-2)^3 - (x-2)$.

[17 marks.]

4. (*a*) Find the value of
$$\frac{a^2-2}{6ab} \times \frac{18b^3}{5a^4-10a^2} \text{ when } b^2 = \tfrac{1}{3}a^3.$$
   (*b*) If $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$ show that $b = \frac{ac}{a-c}$.

[17 marks.]

5. (*a*) Express y yards in kilometres.
(8 kilometres = 5 miles).

(*b*) If a, b, and c are consecutive numbers, show t
$a^2 - c^2 = 4b$.

(*c*) What values of x will make $(x+7)(x-3) = 0$?
(17 marks.)

6. A man gives 3d. to each of a number of boys and h
1s. 9d. left over : if he had 1s. 6d. more he could divide
the money between them by giving $4\frac{1}{2}$d. to each boy. Ho
many boys are there ?

[17 marks.]