TAKE 10 ... ALGEBRAIC FRACTIONS

Q1. (a) Simplify $\dfrac{2y - 12}{y^2 - 8y + 12}$

(3)

(b) Write as a single fraction $\dfrac{3}{x - 4} - \dfrac{1}{x + 5}$

(2)

Q2. Simplify fully $\dfrac{3x^2 - 6x}{x^2 + 2x - 8}$

(3)

Q3. Simplify completely $\dfrac{2x^2 - 9x - 5}{4x^3 + 2x^2}$

(3)

Q4. Simplify fully $\dfrac{2x^2 + 5x - 3}{x^2 - 9}$

(3)

Q5. (a) Solve $\dfrac{4(8x - 2)}{3x} = 10$

(3)

(b) Write as a single fraction in its simplest form $\dfrac{2}{y - 3} - \dfrac{1}{y - 6}$

(3)

Q6. Write $\frac{5}{x-3} - \frac{4}{x+3}$ as a single fraction in its simplest form.

(3)

Q7. Solve $\frac{h+7}{3} + \frac{2h-1}{2} = \frac{5}{6}$

(4)

Q8. Show that $\frac{1}{2x^2+x-15} \div \frac{1}{3x^2+9x}$ simplifies to $\frac{ax}{bx+c}$ where a, b and c are integers.

(3)

Q9. (a) Write $\frac{4x^2-9}{6x+9} \times \frac{2x}{x^2-3x}$ in the form $\frac{ax+b}{cx+d}$ where a, b, c and d are integers.

(3)

(b) Express $\frac{3}{x+1} + \frac{1}{x-2} - \frac{4}{x}$ as a single fraction in its simplest form.

(3)

Q10. Show that $6 + \left[(x+5) \div \frac{x^2+3x-10}{x-1}\right]$ simplifies to $\frac{ax-b}{cx-d}$ where a, b, c and d are integers.

(4)