1. Pick from the box an example of each of the following, (you may use old notes, books or the internet)

    (a) an expression,   (b) an equation   (c) a constant

    (d) a variable,   (e) a term,   (f) a coefficient

    (g) an index   (h) an identity

$y \quad mx \quad c$ $3x^2 \quad 2x \quad 10$ $6x^2 \quad a^2 \quad b^2 \quad (a \quad b)(a \quad b)$

2. Solve the equations:

    (a) $3(2x \quad 5) \quad (x \quad 8) \quad 6(3 \quad x)$ (b) $\frac{1}{2}(5x \quad 3) \quad \frac{1}{4}(7 \quad 2x) \quad 5$

3. Find the values of x and y that simultaneously satisfy:

    (a) $\begin{array}{l} 3x \quad 2y \quad 4 \\ x \quad 2y \quad 36 \end{array}$ (b) $\begin{array}{l} 7x \quad y \quad 25 \\ x^2 \quad y^2 \quad 25 \end{array}$

    For the equations in part (a), explain how you could have found the solution graphically.

4. Factorise the following:

    (a) $5x^2y \quad 2x$ (b)

5. Factorise fully the following:

    (a) $x^2 \quad 5x \quad 6$ (b) $x^2 \quad 5x \quad 6$ (c) $x^2 \quad 5x \quad 6$

    (d) $x^2 \quad 5x \quad 6$ (e) $3x^2 \quad 7x \quad 6$ (f) 9

    (g) $6x^2 \quad 15x \quad 6$

6. (a) Make h the subject of $\dfrac{2}{Rt} \quad mgh \quad k^2h$.

    (b) Make h the subject of $2 \quad h \quad 6x^2 \quad 2xh$.

    (c) Make h the subject of $yh \quad \dfrac{10}{h}$.

    (d) Make h the subject of $y \quad 1 \quad \sqrt{3h \quad 1}$.

7.   der than he was 11 years ago.

    (a)

    (b) How old is James now?

8. Write each of the following expressions as a single fraction in its simplest form:

    (a) $\dfrac{a}{b^2} \quad \dfrac{a^2}{b}$ (b) $2uv^2 \quad \dfrac{u}{v}$ (c) $\dfrac{1}{4x} \quad \dfrac{1}{6x}$

9. Simplify the following fractions:

    (a) $\dfrac{2(x \quad 2)^3}{(x \quad 2)(x \quad 4)}$ (b) $\dfrac{3y \quad 9}{y^2 \quad 9}$ (c) $\dfrac{6ab \quad 30b^2}{3(2a \quad 5b)}$