



Week 3: Equations and Inequalities

Try these exercises now, do not use a calculator, and try to solve the exercises without help

1. Solve these equations:

(a) $3x + 4 = 4x + 3$

(b) $5m - 3 = 5(m - 3) + 2m$

(c) $\frac{5}{m} = \frac{2}{m+1}$

(d) $\frac{4x+5}{6} - \frac{2x-1}{3} = x$

2. If $a = 2$ find b if $54 = a - 4b$

3. Solve

(a) $x^2 = 9$

(b) $x^2 - 2x - 8 = 0$

(c) $3x^2 + 7x - 6 = 0$

(d) $6x^2 = x + 2$

(e) $4a^2 - 25 = 0$

(f) $12y^2 - 10 = 26y$

(g) $6a^2 - 15a = 0$

(h) $3b^2 + 5b = 3$

(i) $-4x^2 + 2x + 1 = 0$

4. Sketch the curves: (a) $y = x^2 - 2x - 8$ (b) $y = 3x^2 + 7x - 6$ (c) $y = -4x^2 + 2x + 1$

5. Solve the simultaneous equations:

$$3x + 5y = 31 \quad (1)$$

and $2x + 3y = 20 \quad (2)$

6. Solve the simultaneous equations: $y = 2x + 3$ and $5x + 2y = -9$