Lesson 3

Algebra, Tame The Monster : Year 9

3.1 Equation Solving Involving Brackets.

Question : Solve the equation;

$$4\,(\,6x + 7\,) - 9x + 2 = 35$$

Solution :

$$\begin{aligned} 4\,(\,6x + 7\,) - 9x + 2 &= 35 && \textit{expand} \\ 24x + 28 - 9x + 2 &= 35 && \textit{merge like terms} \\ 15x + 30 &= 35 && -30 \\ 15x &= 5 && \div 15 \\ x &= \frac{5}{15} \\ x &= \frac{1}{3} \end{aligned}$$

3.2 Exercise

No need for a calculator when answering these questions.

(i) $7\,(\,a + 3\,) = 35$ **(ii)** $5\,(\,2m + 1\,) = 75$

(iii) $3\,(\,2p + 3\,) = 33$ **(iv)** $4\,(\,z - 3\,) + 1 = 13$

(v) $4 (a + 8) + 7 = 51$

(vi) $5 (2e + 1) + 3 = 48$

(vii) $3 (6p + 3) - 88 = 101$

(viii) $4 + 7 (q + 3) = 53$

(ix) $10 (x + 13) + 11 = 111$

(x) $8 (3y + 10) - 74 = 30$

(xi) $15 (t + 2) - 100 = 5$

(xii) $7h + 2 (h + 5) = 37$

(xiii) $3e + 5 (2e + 1) = 44$

(xiv) $7k - 2 (k + 5) = 15$

(xv) $5 (e + 7) - 3 (e + 5) = 32$

(xvi) $13k - 5 (k + 5) = 23$

(xvii) $4(n+3) = 14$

(xviii) $5(k-12) = 60$

(ix) $\frac{2(d+4)}{3} = 10$

(xviii) $\frac{2e}{3} + \frac{4e}{3} = 120$

How high does your flag fly ?