END OF UNIT 1 QUESTIONS

1 **a** $7a^2 + 4a^3$ **b** $2a^3$ **c** $12x - 15$

2 **a** $x = 9$ **b** $x = 40$ **c** $x = 15$

3 **a** 10^{14} **b** 1×10^{14}

4 **a** 3×10^{10} **b** 440 000

5 **a** 92.78 **b** 182.8 **c** 70.75

6 20%

7 **a** 38 **b** −8 **c** 64

8 **a** −2 **b** 4 **c** $y = -2x + 4$

9 **a** $y = 3x + 2$ and $y = 3x - 3$; the x co-efficents are the same.

10 **a** $x = 6$ **b** $x = -10.5$ **c** $x = -2$

11 **a** 0.2 **b** 68 **c** 0.2

12 **a** 8.0×10^9 **b** 7.5×10^4 **c** 9.5×100

13 **a** $3a^2b + a$ **b** $4a^3$ **c** $4c + 4$

14 12%

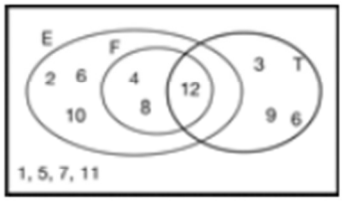
15 1.3 by 11.1%

16 **a** −18 **b** 1 **c** 39

17 **a** $E' = \{1, 3, 5, 7, 9, 11\}, E \cap T = \{6, 12\}, F \cap T = \{12\}$

b E' = {odd integers less than 13},
$E \cap T$ = {multiples of 6},
$F \cap T$ = {multiples of 12}.

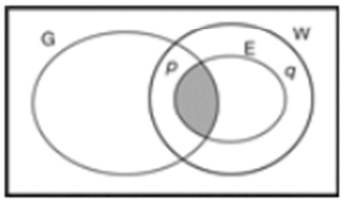
c



18 **a** All houses with electricity have mains water. $E \subset W$

b House p has mains water and gas but no electricity.

c and d



19 **a** $y = -\frac{2}{3}x + 2$ or $2x + 3y = 6$ **b** $y = -\frac{2}{3}x - 1$

20 **a** $3(x + 2) = 2x + 10$ **b** 4

21 **a** $20x - 10(30 - x) = 180$ **b** 16

22 **a** $3x + 5(x - 10) + 2(x + 20) = 890$ **b** 90 cents

23 150°, 30°

24 112°, 29°