1. Expand and simplify

(a) $10x^3 - 15x^2 + 25x + 2x^2 - 3x + 5 = 10x^3 - 13x^2 + 22x + 5$

(b) $4x^2 - 16 + \dfrac{16}{x^2}$

2.

(a) $2(m^2 - 9) = 2(m - 3)(m + 3)$

(b) $(x + 3)(x + 5)$

(c) $(3x - 1)(2x + 1)$

3. Simplify

(a) $16a^8$

(b) $10a^{-7} \div 20a^4 = 1 \div 2a^{11}$

(c) $20x^{11/2} + 15x^{1/10}$

4. $QR^2 = 12^2 - 10^2$

$QR = \sqrt{44}$

$QR = \sqrt{4}\sqrt{11}$

$QR = 2\sqrt{11}$

5. $s = 3000 \div 1382400$

$= 0.00217$ m/s

$= 2.2 \times 10^{-3}$

6. $104\% = £894{\cdot}40$.

$1\% = 8.6$

$100\% = £860$

7. $2\sqrt{5} \div 5$