

14 Revision

1. Simplify

a) $4x + x$

b) $10x + y - 4 - 5x$

c) $4x^2 + x - 2x^2 + 3x$

d) $2abc + 4a - 5b + c + abc - 2a + 3b$

e) $\frac{32x^6}{24x^2}$

f) $\frac{4x^2y^3}{2xy^4}$

g) $(2x^2)^3$

h) $(4x^2y^3)^2$

2. Expand

a) $3x(x + 2)$

b) $5(2p - q)$

c) $x(x - 3) + 8(x - 1)$

d) $x(2x - 3) - 2(x + 2)$

e) $(8x - 3)(x + 1)$

f) $(2x + 3)(5 - 3x)$

g) $(2x - 1)(2x + 1)$

3. Factorise (one bracket)

a) $4a + 4b$

b) $5x + 20y$

c) $7x - 3x^2$

d) $24xy^2z - 18x^3yz$

4. Factorise (two brackets)

a) $x^2 + 8x + 15$

b) $x^2 - 2x - 15$

c) $x^2 - 15x + 56$

d) $x^2 + 5x - 36$

5. Factorise (two brackets)

a) $x^2 - 16$

b) $x^2 - 121$

c) $x^2 - 1$

6. Solve (Linear equations)

a) $x + 3 = 14$

b) $\frac{x}{5} = -2$

c) $\frac{x - 4}{6} = -3$

d) $12 - 3x = 36 + 5x$

7. Solve (Quadratic equations)

a) $(x - 6)(x - 3) = 0$

b) $3x(x + 2) = 0$

c) $x^2 + 8x - 5 = 4$

d) $2x(4 - x) = 6$

e) $(x - 3)(x + 2) = 4x$