

***Maths for Economics 5th edition Renshaw Test
Bank***

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Exercise W2.1

1.

(a) $2a - 3$

(b) $-2x + 4y - z$

(c) $3ay + 2a + 4y$

2.

(d) $\frac{ax}{by}$; $\frac{2x}{3y}$

(e) $\frac{ax}{by}$; $\frac{2x}{3y}$

(f) $\frac{abx^2}{cy}$; $\frac{-3x^2}{2y}$

Exercise W2.2

1.

(a) $y - 7x$

(b) $4 - x$

(c) $2y(x - z)$

2.

(a) $5x(y - 2)$

(b) $x(5 - 3y) - 4y$; or $5x - y(3x + 4)$

(c) $y(2x - 4z + 1)$

(d) $2z[y(2x - 1) + 4x]$

Exercise W2.3

1.

(a) $\frac{ad - cb}{bd}$

(b) $\frac{a(b^2 + c^2)}{cb}$

(c) $\frac{a^2c + b^2 + c^2}{abc}$

(d) $\frac{2ab^2 - abd}{bcd}$

2.

(a) $\frac{ab^2}{d}$

(b) $\frac{a(c + d)}{b^2c}$

(c) $\frac{a(b + c)}{b(a + b)}$

Exercise W2.4

1.

(a) $2a^2$; $-2a^2$; $2a^3$; $2a^2$

(b) $\frac{3u}{5}$; or $\frac{3}{5}u$

(c) $\frac{-a}{b^2}$; or $-\frac{a}{b^2}$

2.

(a) $a + b$

(b) $x^{-1}y$; or $\frac{y}{x}$

(c) uv^{-1} ; or $\frac{u}{v}$

(d) $\frac{a^2b}{c}$

Exercise W2.1

1. Write in their simplest forms:
 - (a) $a + 2 - 3a - 5 + 4a$
 - (b) $y + z - 2x + 3y - 2z$
 - (c) $5ay + 2a + 4y - 2ay$

2. Re-write the following without using the ' $\times$ ' and ' $\div$ ' signs, and find the numerical value of each when $a = 2$, $b = 3$ and $c = -4$:
 - (a) $-ax \div -by$
 - (b) $a \times x \div y \times b$
 - (c) $-ax \div cy \times (-bx)$

Exercise W2.2

1. Multiply out, and simplify:
 - (a) $-3(x + y) + 4(y - x)$
 - (b) $2(x + 1) - 3(x - \frac{2}{3})$
 - (c) $x(2y + z) - z(2y + x)$

2. Factorize the following, where possible:
 - (a) $5xy - 10x$
 - (b) $5x - 3xy - 4y$
 - (c) $2xy - 4zy + y$
 - (d) $4xyz - 2yz + 8xz$

Exercise W2.3

1. Express each of the following as a single algebraic fraction:

(a) $\frac{a}{b} - \frac{c}{d}$

(b) $\frac{ab}{c} + \frac{ac}{b}$

(c) $\frac{a}{b} + \frac{b}{ac} + \frac{c}{ab}$

(d) $\frac{2ab}{cd} - \frac{ab}{bc}$

2. Express each of the following as a single algebraic fraction, and simplify where possible:

(a) $\frac{ab}{c} \times \frac{bc}{d}$

(b) $\frac{a}{bc} \div \frac{b}{c+d}$

(c) $\frac{a}{a+b} \div \frac{b}{b+c}$

Exercise W2.4

1. Simplify where possible:

(a) $2(-a)^2$; $-2(-a)^2$; $-2(-a)^3$; $2(a)^2$

(b) $3u^2 \div 5u$

(c) $\frac{a^2}{b^3} \div \frac{a}{-b}$

2. Remove the brackets from the following:

(a) $\frac{(a+b)^3}{(a+b)^2}$

(b) $(x^{-\frac{1}{2}}y^{\frac{1}{2}})^2$

(c) $\frac{u^{\frac{1}{2}}v^{-\frac{1}{2}}}{u^{-\frac{1}{2}}v^{\frac{1}{2}}}$

(d) $\frac{(ab)^2}{bc}$