

Firrhill High School
Mathematics Department

Level 5

Assessment Questions

Algebra

Simplifying

Algebraic

Fractions

(1) 2008 Paper 1 Q.5

Express as a single fraction in its simplest form

$$\frac{1}{p} + \frac{2}{(p+5)}$$

KU	R
2	

(2) 2008 Paper 1 Q.13

A new fraction is obtained by adding x to the numerator and denominator of the fraction $\frac{17}{24}$.

This new fraction is equivalent to $\frac{2}{3}$.

Calculate the value of x .

	3	

(3) 2006 Paper 1 Q.6

(a) Factorise

$$4x^2 - y^2$$

(b) Hence simplify

$$\frac{4x^2 - y^2}{6x + 3y}$$

KU	RE
1	
2	

(4) 2004 Paper 1 Q.4

Simplify

$$\frac{3}{m} + \frac{4}{(m+1)}$$

	3	

(5) 2002 Paper 1 Q.5

(a) Factorise $p^2 - 4q^2$.

(b) Hence simplify

$$\frac{p^2 - 4q^2}{3p + 6q}$$

1

2

(6) 2000 Paper 1 Q.4

(a) Factorise $x^2 - 16$.

(b) Express $\frac{5(2x-3)}{4x^2-9}$ in its simplest form.

1

2

7) 2015 N5 Paper 1

12. Simplify $\frac{x^2 - 4x}{x^2 + x - 20}$.

3

8) 2015 N5 Paper 2

7. Express $\frac{5t}{s} \div \frac{t}{2s^2}$ in its simplest form.

3

9) 2015 Int2 Paper 2

5. Express

$$\frac{5t}{s} \div \frac{t}{2s^2}$$

in its simplest form.

3

10) 2014 N5 Paper 2

9. Express $\frac{7}{x+5} - \frac{3}{x}$ $x \neq -5, x \neq 0$ as a single fraction in its simplest form.

3

11) 2014 Int2 Paper 2

9. Express

$$\frac{2}{(x-4)} + \frac{5}{x}, \quad x \neq 0, \quad x \neq 4,$$

as a single fraction in its simplest form.

3

12) 2013 Int 2 Paper 1

7. Simplify $\frac{(x+4)^2}{x^2-x-20}$.

3

13) 2013 Int 2 Paper 2

9. Simplify $\frac{x^6}{y^2} \times \frac{y^3}{x^3}$.

2

14) 2013 Int 2 Paper 2

11. Express

$$\frac{3}{x+2} + \frac{5}{x-1} \quad x \neq -2, \quad x \neq 1$$

as a single fraction in its simplest form.

3

15) 2012 Int 2 Paper 2

7. Express as a single fraction

$$\frac{a}{b} + \frac{b}{a}, \quad a \neq 0, \quad b \neq 0.$$

2

16) 2011 Int 2 Paper 2

8. Simplify

$$\frac{3x-15}{(x-5)^2}.$$

2

9. Express

$$\frac{3}{x} - \frac{4}{x+1}, \quad x \neq 0, \quad x \neq -1$$

as a single fraction in its simplest form.