

**Higher IGCSE (9 – 1) Revision Pack**

**Simplifying Algebraic Expressions**

**Name --------------------------------**

**Questions**

**Q1.**

(a)  Factorise     *g*2 + 4*g*

...........................................................

**(2)**

(b)  Factorise     *e*2 − 2*e* − 24

...........................................................

**(2)**

**(Total for question = 4 marks)**

**Q2.**

(a)  Factorise *c*2 − 5*c*

...........................................................

**(2)**

(b)  Simplify *d*5 × *d*7

...........................................................

**(1)**

(c)  Factorise *x*2 + *x* − 30

...........................................................

**(2)**

(d)  Make *b* the subject of *P* = ½*ab*2

*b* = ...........................................................

**(2)**

  
(e)  Solve

Show clear algebraic working.

*x* = ...........................................................

**(4)**

**(Total for question = 11 marks)**

**Q3.**

(a)  Factorise  *y*2 – 2*y* – 48

...........................................................

**(2)**

(b)  Solve

*e* = ...........................................................

**(2)**

(c)  Simplify fully

...........................................................

**(3)**

**(Total for question = 7 marks)**

**Q4.**

(a)  Factorise     *a*2 − *b*2

...........................................................

**(1)**

*N* = 222 − 1

(b)  Write *N* as the product of two integers, both of which are greater than 1000

........................................................... × ...........................................................

**(2)**

**(Total for question = 3 marks)**

**Q5.**

(a) Simplify 4*p*3*q*5 × 6*p*2*q*

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**(2)**

(b) Simplify (5*x*2*y*4)3

...........................................................

**(2)**

(c) Factorise 9*a*2 − *b*2

...........................................................

**(2)**

**(Total for question = 6 marks)**

**Q6.**

(a)  Simplify    2*e*2*f* × 5*e*3*f*

...........................................................

**(2)**

(b)  Factorise    *x*2 − 5*x* − 6

...........................................................

**(2)**

**(Total for question = 4 marks)**

**Q7.**

(a) Factorise *e*2 – 100

. . . . . . . . . . . . . . . . . . . . . .

**(1)**

(b) Factorise 2*x*2 – 7*x* – 15

. . . . . . . . . . . . . . . . . . . . . .

**(2)**

(c) Simplify

. . . . . . . . . . . . . . . . . .

**(1)**

**(Total for Question is 4 marks)**

**Q8.**

(a)  Solve

*x* = ...........................................................

**(3)**

(b)  Simplify

...........................................................

**(1)**

**(Total for question = 4 marks)**

**Q9.**

(a) Simplify

      ..............................................................................................................................................

**(Total for Question is 2 marks)**

**Q10.**

(a)  Simplify

...........................................................

**(1)**



(b)  Solve

*x* = ...........................................................

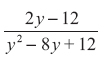
**(3)**

(c)  Make *m* the subject of the formula

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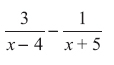
**(3)**

**(Total for question = 7 marks)**

**Q11.**

(a) Simplify

      ..............................................................................................................................................

**(3)**

(b) Write as a single fraction

      ..............................................................................................................................................

**(2)**

**(Total for Question is 5 marks)**

**Q12.**

Show that simplifies to a*x* where a is an integer.

**(Total for question = 4 marks)**

**Q13.**

Simplify fully

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**(Total for Question is 3 marks)**

**Q14.**

Simplify fully

      ..............................................................................................................................................

**(Total for Question is 3 marks)**

**Q15.**

Simplify fully

      ..............................................................................................................................................

**(Total for Question is 3 marks)**

**Q16.**

Simplify fully

...........................................................

**(Total for question = 3 marks)**

**Q17.**

(a)  Write where *a*, *b*, *c* and *d* are integers.

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**(3)**

(b)  Express as a single fraction in its simplest form.

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**(3)**

**(Total for question = 6 marks)**

**Q18.**

Show that simplifies to *ax* where *a* is an integer.

**(Total for question = 4 marks)**

**End of questions**