IGCSE Fractions and Algebraic Answers

1.	$\frac{5x-3}{6}$		2	**B1** for $5x-3$ seen **SC1** $\frac{5}{6}x-\frac{3}{6}$ on answer line
2.	$\frac{15a+32}{40}$ oe		2	**B1** $15a+32$ seen or **SC1** $\frac{15a}{40}+\frac{32}{40}$ on answer line
3.	$\frac{1-3x}{(x+1)(x+5)}$ www		**4**	**M1** $(x+1)^2-x(x+5)$ oe **B1** $x^2+x+x+1$ **B1** denominator(s) $(x+1)(x+5)$ or x^2+6x+5
4.	$\frac{5x-2}{(x-2)(x+2)}$		**3**	**M1** $2(x+2)+3(x-2)$ seen **B1** $(x-2)(x+2)$ common denom. seen
5.	$\frac{55}{30}+\frac{27}{30}$ oe **or** $(1)\frac{25}{30}+\frac{27}{30}$ oe		**M1**	for denominator of $30k$
	$\frac{82}{30}$ oe **or** $(1)\frac{52}{30}$ oe		**M1**	for denominator of $30k$ dependent on previous **M1**
	$2\frac{11}{15}$ **M2** must be scored		**A1**	If **M0** scored then **SC1** for common denominator of $30k$ seen
6.	25 (correct working essential)		**2**	**M1** for $18+4+3$ with denominator 12 must be soi (oe is possible)
7.	Answer given		**3**	**M1** $\frac{19}{15}$ **M1** $\frac{6}{15}$ or $\times\frac{15}{6}$ seen **E1** $=\frac{19}{6}=3\frac{1}{6}$
8.	$\frac{11}{12}-\frac{4}{12}$ oe		**2**	**M1** correct use of a common denominator
	$\frac{7}{12}$ **cao ww 0**			**A1**
	$\frac{1}{4}\times\frac{13}{11}$ oe		**2**	**M1** inversion and operation change
	$\frac{13}{44}$ **cao ww 0**			**A1**
9.	$2\frac{1}{12}$ cao **with correct working**		**3**	**M1** $(1+)\frac{6}{12}+\frac{4}{12}+\frac{3}{12}$ oe **A1** $(1)\frac{13}{12}$ or $\frac{25}{12}$ oe

10. $\frac{2x+2}{(x+10)(x+4)}$ oe

3	**B1** common denominator $(x + 10)(x + 4)$ oe seen **B1** $3(x + 4) – (x + 10)$ seen oe

11. $\frac{1-5x+x^2}{x(1-2x)}$ or $\frac{1-5x+x^2}{x-2x^2}$

4	**M1** for $(1 – x)(1 – 2x) – x(2 + x)$ seen **B1** for $1 – x – 2x + 2x^2$ or $1 – 3x + 2x^2$ seen **B1** for $x(1 – 2x)$ oe as a common denominator

12. $\frac{\frac{17}{9}}{\frac{5}{2}}$ **or** $\frac{17}{9} \div \frac{5}{2}$

$\frac{17}{9} \times \frac{2}{5} = \frac{34}{45}$

M1	$\frac{\frac{34}{18}}{\frac{45}{18}}$ **or** $\frac{34}{18} \div \frac{45}{18}$
M1	$\frac{34}{18} \times \frac{18}{45} = \frac{34}{45}$

13. $\frac{23 – 2x}{12}$

3	**M1** for two correct algebraic fractions with a common denominator of 12 **M1** for correctly collecting their terms **M1** for dealing correctly with the 1

14. $\frac{5+x}{2x}$

2	**M1** $4 + 1 + x$ seen or **M1** $\frac{10+2x}{4x}$ oe

15. Answer given so only working scores marks

2	**M1** 7/27 + 48/27 or 7/27 + (1)21/27 **M1** completely correct finish

16. $\frac{x-7}{(x-1)(x+2)}$

3	**M1** $3(x – 1) – 2(x + 2)$ seen **B1** denominator correct seen **A1** all correct

17. **(a)** $\frac{x-2y}{xy}$

2	**B1** correct numerator **B1** correct denominator

(b) $\frac{x}{3}$ www

3	**M1** $x(x + 1)$ **M1** $3(x + 1)$