**Algebraic Fractions Revision**

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| Name : | Class : | Date : |

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| Mark : | /30 | % |

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| **1)** Simplify the following      a)  $\frac{16-12b}{4}$     b)  $\frac{25b-5}{10b-2}$     c)  $\frac{12z^{2}+3z}{16z+4}$ | [6]   |
|      d)  $\frac{b^{2}+8b+12}{b+6}$     e)  $\frac{b+1}{b^{2}-4b-5}$     f)  $\frac{c^{2}+6c+8}{c^{2}+12c+32}$ |  |
| **2)** Express as a single fraction      a)  $\frac{x}{2}+\frac{x}{8}$     b)  $\frac{3x}{13}+\frac{x}{7}$     c)  $\frac{x}{6}-\frac{x+3}{5}$ | [4]   |
|      d)  $\frac{x-8}{3}-\frac{x-6}{2}$ |  |
| **3)** Solve the following algebraic fraction      a)  $\frac{z+1}{3}=1$     b)  $\frac{y-7}{4}=3$     c)  $\frac{9}{8}(z+8)=36$ | [12]   |
|      d)  $-\frac{b}{4}=7$     e)  $\frac{4x}{5}=20$     f)  $\frac{y}{45}=\frac{6}{5}$ |  |
|      g)  $\frac{9b}{20}=\frac{63}{4}$     h)  $\frac{y+9}{12}=\frac{5}{4}$     i)  $\frac{x-5}{8}=\frac{x}{10}$ |  |
|      j)  $\frac{2c+7}{9}=\frac{c+2}{6}$     k)  $\frac{a}{4}+\frac{a}{2}=3$     l)  $\frac{7z}{6}+\frac{z}{2}=10$ |  |
| **4)** Solve the equation and leave your answer as a fraction or a decimal to 3 significant figures        $\frac{4}{b+6}=5$ | [1]   |
| **5)** Solve the equation      a)  $\frac{1}{4}-\frac{1}{z+5}=\frac{1}{8}$     b)  $\frac{1}{a+9}+\frac{1}{5}=\frac{1}{4}$     c)  $\frac{27}{c}+c=12$ | [6]   |
|      d)  $2+x=\frac{24}{x}$     e)  $7=c-\frac{18}{c}$     f)  $2+\frac{63}{z}=z$ |  |
| **6)** Solve the equation leaving your answer as a fraction or decimal to 3 significant figures        $\frac{1}{b}+\frac{b}{b+6}=1$ | [1]   |

**Solutions for the assessment Algebraic Fractions Revision**

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| **1)**  a)  $\frac{4-3b}{1}$ |      b)  $\frac{5}{2}$ |
|      c)  $\frac{3z}{4}$ |      d)  $b+2$ |
|      e)  $\frac{1}{b-5}$ |      f)  $\frac{c+2}{c+8}$ |
| **2)**  a)  $\frac{5x}{8}$ |      b)  $\frac{34x}{91}$ |
|      c)  $\frac{-x-18}{30}$ |      d)  $\frac{-x+2}{6}$ |
| **3)**  a) 2 |      b) 19 |
|      c) 24 |      d) -28 |
|      e) 25 |      f) 54 |
|      g) 35 |      h) 6 |
|      i) 25 |      j) -8 |
|      k) 4 |      l) 6 |
| **4)**  $-5.2or-\frac{26}{5}$ |  |
| **5)**  a) 3 |      b) 11 |
|      c)  $c=9$ or  $c=3$ |      d)  $x=-6$ or  $x=4$ |
|      e)  $c=9$ or  $c=-2$ |      f)  $z=9$ or  $z=-7$ |
| **6)** 6/5 or 1.2 |  |