**Quadratic Equations - Completing the Square**

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| Name : | Class : | Date : |

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| Mark : | /6 | % |

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| **1)** Consider the equation    $t^{2}+6t-91=0$         a) Rearrange into the form  $(t+b)^{2}=c$   b) Hence, solve the equation    $t^{2}+6t-91=0$ | [1]   |
| **2)** Consider the equation    $y^{2}-10y-39=0$         a) Rearrange into the form  $(y+b)^{2}=c$   b) Hence, solve the equation    $y^{2}-10y-39=0$ | [1]   |
| **3)** Consider the equation    $y^{2}+9y+14=0$         a) Rearrange into the form  $(y+b)^{2}=c$   b) Hence, solve the equation    $y^{2}+9y+14=0$ | [1]   |
| **4)** Consider the equation    $z^{2}-3z-18=0$         a) Rearrange into the form  $(z+b)^{2}=c$   b) Hence, solve the equation    $z^{2}-3z-18=0$ | [1]   |
| **5)** Consider the equation    $3y^{2}+16y+5=0$         a) Rearrange into the form  $a(y+b)^{2}=c$   b) Hence, solve the equation    $3y^{2}+16y+5=0$ | [1]   |
| **6)** Consider the equation    $3t^{2}-5t+2=0$         a) Rearrange into the form  $a(t+b)^{2}=c$   b) Hence, solve the equation    $3t^{2}-5t+2=0$ | [1]   |

**Solutions for the assessment Quadratic Equations - Completing the Square**

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| **1)** a)  $(t+3)^{2}=100$     b)  $t=7$ or  $t=-13$ | **2)** a)  $(y-5)^{2}=64$     b)  $y=13$ or  $y=-3$ |
| **3)** a)  $(y+4.5)^{2}=6.25$ or  $(y+\frac{9}{2})^{2}=\frac{25}{4}$     b)  $y=-2$ or  $y=-7$ | **4)** a)  $(z-1.5)^{2}=20.25$ or  $(z-\frac{3}{2})^{2}=\frac{81}{4}$     b)  $z=6$ or  $z=-3$ |
| **5)** a)  $3(y+\frac{8}{3})^{2}=\frac{49}{3}$     b)  $y=-\frac{1}{3}$ or  $y=-5$ | **6)** a)  $3(t-\frac{5}{6})^{2}=\frac{1}{12}$     b)  $t=\frac{2}{3}$ or  $t=1$ |