**Quadratic Equations - Completing the Square**

|  |  |  |
| --- | --- | --- |
| Name : | Class : | Date : |

|  |  |  |
| --- | --- | --- |
| Mark : | /6 | % |

|  |  |
| --- | --- |
| **1)** Consider the equation    $s^{2}+4s-45=0$         a) Rearrange into the form  $(s+b)^{2}=c$   b) Hence, solve the equation    $s^{2}+4s-45=0$ | [1]   |
| **2)** Consider the equation    $s^{2}-4s-32=0$         a) Rearrange into the form  $(s+b)^{2}=c$   b) Hence, solve the equation    $s^{2}-4s-32=0$ | [1]   |
| **3)** Consider the equation    $s^{2}+7s+12=0$         a) Rearrange into the form  $(s+b)^{2}=c$   b) Hence, solve the equation    $s^{2}+7s+12=0$ | [1]   |
| **4)** Consider the equation    $y^{2}-3y-10=0$         a) Rearrange into the form  $(y+b)^{2}=c$   b) Hence, solve the equation    $y^{2}-3y-10=0$ | [1]   |
| **5)** Consider the equation    $3z^{2}+17z+10=0$         a) Rearrange into the form  $a(z+b)^{2}=c$   b) Hence, solve the equation    $3z^{2}+17z+10=0$ | [1]   |
| **6)** Consider the equation    $3y^{2}-7y+4=0$         a) Rearrange into the form  $a(y+b)^{2}=c$   b) Hence, solve the equation    $3y^{2}-7y+4=0$ | [1]   |

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

|  |  |
| --- | --- |
| **1)** a)  $(s+2)^{2}=49$     b)  $s=5$ or  $s=-9$ | **2)** a)  $(s-2)^{2}=36$     b)  $s=8$ or  $s=-4$ |
| **3)** a)  $(s+3.5)^{2}=0.25$ or  $(s+\frac{7}{2})^{2}=\frac{1}{4}$     b)  $s=-3$ or  $s=-4$ | **4)** a)  $(y-1.5)^{2}=12.25$ or  $(y-\frac{3}{2})^{2}=\frac{49}{4}$     b)  $y=5$ or  $y=-2$ |
| **5)** a)  $3(z+\frac{17}{6})^{2}=\frac{169}{12}$     b)  $z=-\frac{2}{3}$ or  $z=-5$ | **6)** a)  $3(y-\frac{7}{6})^{2}=\frac{1}{12}$     b)  $y=\frac{4}{3}$ or  $y=1$ |