N5 SPTA N5 Homework Surds & Indices (A)

Show all working – <u>NO</u> calculator required.

<u>**Marks**</u>

1. Simplify: **a)** $\sqrt{147} - 5\sqrt{3}$ **(b)** $\sqrt{2}(\sqrt{3} + \sqrt{2}) - \sqrt{6}$ **(4)**

2. Express $2\sqrt{5} + \sqrt{20} - \sqrt{45}$ as a surd in its simplest form.   **(2)**

3. Express with a rational denominator $\dfrac{5}{2\sqrt{3}}$ **(2)**

4. Simplify $\dfrac{m^5}{m^3}$ **(1)**

5. Simplify, giving your answer with a positive power: $m^5 \times m^{-8}$ **(2)**

6. Express $p^3(p^2 - p^{-3})$ in its simplest form.   **(2)**

7. Simplify $\dfrac{3a^2 \times 2a}{a^2}$ **(3)**

8. Express in its simplest form: $\dfrac{y^4 \times y}{y^{-2}}$ **(2)**

9. Evaluate: $16^{\frac{3}{4}}$ **(2)**

<u>**Total Marks: 20**</u>