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| **S3 National 5 Homework Exercise 8** | C:\Users\Ian\Pictures\CHS.jpg |
|  |
| **Surds & Indices** |
|  |
| Issued by: |  | Return by: |  |
|  |
| **1.** | Simplify: |
|  |  |
|  | a) |  | b) |  | c) |  | d) |  | e) |  | f) | x  |
|  | g) |  | h) |  | i) |  | j) |  |
|  |  |  |  |  |  |  |  |  |
|  | k) |  | l) |  | m) |  | n) |  |
|  |  |  |  |  |  |  |  |  |
| **2.** | Express with rational denominators (simplify where necessary): |
|  |  |  |  |  |  |  |  |  |
|  | a) |  | b) |  | c) |  | d) |  | e) |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **3.** | A rectangle has sides 10cm long and 8cm wide. |
|  |  |
|  | Find the length of its diagonal, giving your answer as a surd in its simplest form. |
|  |  |
| **4.** | Simplify the following expressions, leaving your answers with positive indices. |
|  |  |  |  |  |  |  |  |  |
|  | a) |  | b) |  | c) |  | d) |  |
|  |  |  |  |  |  |  |  |  |
|  | e) |  | f) |  | g) | 3k3(2k – 5k – 4) | h) |  |
|  |  |  |  |  |  |  |  |  |
| **5.** | a) | Express with positive indices: | b) | Express without root signs: |
|  | (i) | x - 3 | (ii) | 6z - 2 | (iii) | h - 6 | (i) |  | (ii) |  | (iii) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **6.** | Write as roots and evaluate: |
|  |  |  |  |  |  |  |  |  |
|  | a) |  | b) |  | c) |  | d) |  |