MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 12

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

1 Is $\sqrt{81}$ rational or irrational? (1)

> **Rational** — $\sqrt{81} = 9$ exactly. ✓ (1)

2 Is $\sqrt{30}$ rational or irrational? (1)

> **Irrational** — 30 is not a perfect square. ✓ (1)

3 Between which two integers does $\sqrt{20}$ lie? (2)

> $16 < 20 < 25 \rightarrow$ **4 and 5** ✓✓ (2)

4 Between which two integers does $\sqrt{54}$ lie? (2)

> $49 < 54 < 64 \rightarrow$ **7 and 8** ✓✓ (2)

5 Between which two integers does $\sqrt{110}$ lie? (2)

> $100 < 110 < 121 \rightarrow$ **10 and 11** ✓✓ (2)

6 Round 3,14159 to 3 decimal places. (1)

> **3,142** ✓ (1)

7 Round 7,3962 to 2 decimal places. (1)

> **7,40** ✓ (1)

8 Round 0,04567 to 3 decimal places. (1)

> **0,046** ✓ (1)

9 Is 0,272727... rational? (1)

> **Yes** — it recurs, so it can be written as a fraction. ✓ (1)

TOTAL: 12 marks

© Danemathics — free to print and share for classroom use.