POWERS and ROOTS

MTH 4-06a
I have developed my understanding of the relationship between powers and roots and can carry out calculations mentally or using technology to evaluate whole number powers and roots, of any appropriate number.

MNU 4-01a
Having investigated the practical impact of inaccuracy and error, I can use my knowledge of tolerance when choosing the required degree of accuracy to make real-life calculations.

Pupils should be able to:

- Use calculators appropriately
  (Note the two types of calculators - check type by entering 5 + 12 ÷ 3 = ? correct answer 9)
- Calculate squares and cubes and use appropriate keys on calculator
- Know the meaning of square root, and calculate using √ key
- Round after a calculation or division, e.g. 3 ÷ 7
  rounding to 1 or 2 decimal places
- Know the meaning of recurring decimal

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
USE POWERS (QUESTIONS 1 & 3)			
FIND SQUARE ROOTS (QUESTIONS 2 & 3)			
ROUND AFTER CALCULATIONS (QUESTION 1 & 2)			

mymaths lessons: library/number/powers and roots/squares and cubes

SELF EVALUATION EXERCISE DATE DUE_____

1. Using a calculator, find a value for each of the following, round your answers to 1 decimal place where necessary

a)	2^2	*b*)	4^2	*c*)	8^2	*d*)	14^2
e)	1.4^2	*f*)	6.9^2	*g*)	0.26^2	*h*)	4^3
i)	6^5	*j*)	11^5	*k*)	1.5^4	*l*)	26^5

2. Using a calculator, find a value for each of the following, round your answers to 2 decimal places where necessary

a)	$\sqrt{4}$	*b*)	$\sqrt{25}$	*c*)	$\sqrt{81}$	*d*)	$\sqrt{121}$
e)	$\sqrt[3]{8}$	*f*)	$\sqrt[3]{27}$	*g*)	$\sqrt{235}$	*h*)	$\sqrt{1230}$
i)	$\sqrt{8\cdot 9}$	*j*)	$\sqrt{29\cdot 6}$	*k*)	$\sqrt[3]{10}$	*l*)	$\sqrt[4]{200}$

3. Now use your calculator to work these out – remember to use BODMAS.

a)	3^2-2	*b*)	$\sqrt{25}+\sqrt{4}$
c)	7^2+3^2	*d*)	$160-\sqrt{100}$
e)	$4^3+\sqrt{25}$	*f*)	$3^2+5^2-4^2$
g)	$\sqrt{3+4+9}$	*h*)	$\sqrt{2\times 18}$
i)	$\sqrt[3]{100}$	*j*)	$\dfrac{\sqrt{16}}{2}$