QUESTION 4 Complete the following.

a If $1^2 = 1$ then $\sqrt{1} =$ _____ **b** If $2^2 = 4$ then $\sqrt{4} =$ _____ **c** If $3^2 = 9$ then $\sqrt{9} =$ _____

d If $4^2 = 16$ then $\sqrt{16} =$ _____ **e** If $5^2 = 25$ then $\sqrt{25} =$ _____ **f** If $6^2 = 36$ then $\sqrt{36} =$ _____

g If $1^3 = 1$ then $\sqrt[3]{1} =$ _____ **h** If $2^3 = 8$ then $\sqrt[3]{8} =$ _____ **i** If $3^3 = 27$ then $\sqrt[3]{27} =$ _____

QUESTION 3 Evaluate the following.

a $\sqrt{16} =$ _____ **b** $\sqrt{49} =$ _____ **c** $\sqrt{4} =$ _____ **d** $\sqrt{64} =$ _____

e $\sqrt{81} =$ _____ **f** $\sqrt{36} =$ _____ **g** $\sqrt{100} =$ _____ **h** $\sqrt{9} =$ _____

i $\sqrt[3]{8} =$ _____ **j** $\sqrt[3]{64} =$ _____ **k** $\sqrt[3]{125} =$ _____ **l** $\sqrt[3]{27} =$ _____

m $\sqrt{25} =$ _____ **n** $\sqrt[3]{216} =$ _____ **o** $\sqrt[3]{343} =$ _____ **p** $\sqrt[3]{1000} =$ _____

q $\left(\sqrt{3}\right)^2 =$ _____ **r** $\left(\sqrt{4}\right)^2 =$ _____ **s** $\left(\sqrt{5}\right)^2 =$ _____ **t** $\left(\sqrt{6}\right)^2 =$ _____

1) Calculate the square roots WITHOUT the calculator

a $\sqrt{4} =$ _____ **b** $\sqrt{49} =$ _____ **c** $\sqrt{81} =$ _____

d $\sqrt{16} =$ _____ **e** $\sqrt{4} + \sqrt{64} =$ _____ **f** $\sqrt{225} =$ _____

g $\sqrt{121} =$ _____ **h** $\sqrt{25} \times \sqrt{36} =$ _____ **i** $\sqrt{9} \times \sqrt{16} =$ _____

j $\sqrt{169} =$ _____ **k** $\sqrt{625} \div \sqrt{25} =$ _____ **l** $\sqrt{676} - \sqrt{625} =$ _____

2) Calculate these cubic roots WITHOUT the calculator

a $\sqrt[3]{27} =$ _____ **b** $\sqrt[3]{343} \times \sqrt[3]{8} =$ _____ **c** $\sqrt[3]{1000} \div \sqrt[3]{8} =$ _____

d $\sqrt[3]{8} =$ _____ **e** $\sqrt[3]{729} \times \sqrt[3]{27} =$ _____ **f** $\sqrt[3]{1331} \times \sqrt[3]{64} =$ _____

g $\sqrt[3]{64} =$ _____ **h** $\sqrt[3]{8} \times \sqrt[3]{729} =$ _____ **i** $\sqrt[3]{1.728} \times \sqrt{3.43} =$ _____

j $\sqrt[3]{125} =$ _____ **k** $\sqrt[3]{64} \times \sqrt[3]{125} =$ _____ **l** $\sqrt[3]{6.4} + \sqrt[3]{8.1} =$ _____

8 Using a calculator, evaluate the following.

a $\sqrt[3]{3375}$ **b** $\sqrt[3]{15625}$ **c** $\sqrt[3]{9261}$ **d** $\sqrt[3]{6859}$

9 Without a calculator, evaluate the following. Then use a calculator to check your answers.

a $3^2 + 5^2 - \sqrt{16}$

b 4×4^2

c $8^2 - 0^2 + 1^2$

d $1^2 \times 2^2 \times 3^2$

e $\sqrt{5^2 - 3^2}$

f $\sqrt{81} - 3^2$

g $6^2 \div 2^2 \times 3^2$

h $\sqrt{9} \times \sqrt{64} \div \sqrt{36}$

i $\sqrt{12^2 + 5^2}$

j $\sqrt{\dfrac{100 - 64}{9}}$

k $\sqrt{\dfrac{9 - 5}{9}}$

l $\sqrt{\dfrac{28 + 4}{28 + 22}}$

12 List all the square numbers between 101 and 200. Hint: There are only four.

Exercise 5: Fill the table below (the first one has been done for you)

	Prime factorisation	Square root
36	6^2	*6*
121		
900		
676		
1089		