Q1.

Given that $\frac{2^{3x}}{2^{(x-5)}} = 2^{17}$

Work out the value of x.

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.....

.....

.....

x = ...

(Total 3 marks)

Q2.

Express $\frac{1}{\sqrt[3]{x^2}}$ in the form x^a

.....

.....

.....

Answer .....

(Total 3 marks)

Q3. Find **two** sets of values for c and d such that

$16^c = 2^d$

.....

.....

.....

.....

c = ... and d = ...

or c = ... and d = ...

(Total 3 marks)

Q4. Each number in the grid is double the previous number.
The first **seven** numbers are shown.

1	2	4	8	16
32	64			
				x

Work out the number for the last cell, marked x.

Give your answer in standard form to 3 significant figures.
You **must** show your working.

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.....

.....

Answer .....

(Total 5 marks)

Q5. Here is a pattern for the numbers 1, 8 and 17.

$1^3 = 1$ and $1 = 1$

$8^3 = 512$ and $5 + 1 + 2 = 8$

$17^3 = 4913$ and $4 + 9 + 1 + 3 = 17$

Find a number between 25 and 30 that follows this pattern.

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.....

.....

Answer .....

(Total 2 marks)