Powers and Roots Exam Practice

Squares, Cubes

Q1. Write down the square root of 36

Answer:_____

(1 mark)

Q2. Write down the square root of 121

Answer:_____

(1 mark)

Q3. Work out the value of 4^3

Answer:_____

(1 mark)

Q4. Work out the value of 7^3

Answer:_____

(1 mark)

Q5. Write down the cube root of 27

Answer:_____

(1 mark)

Q6. Find the cube root of 8000

Answer:_____

(1 mark)

Q7. Write down all the square numbers from this list:

1,   4,   8,   12,   16,   20,   32,   36,   49,   66,   144,   160

Answer:_____

(2 marks)

Q8. Write down all the cube numbers from this list:

1,   4,   24,   36,   64,   120,   125,   216,   360,   512,   10000

Answer:_____

(2 marks)

Q9. Work out the next cube number after 1000

Answer:_____

(2 marks)

Q10. Find the next square number after 5625

Answer:_____

(3 marks)

Powers:

Q11. From the list, write down all the numbers that are powers of 2.

4,   6,   8,   11,   12,   15,   16,   25,   42,   256

Answer:_____

(2 marks)

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Q12. Write $6 \times 6 \times 6 \times 6 \times 6 \times 6$ as a power of 6

Answer:_____
(1 mark)

Q13. Work out the value of $9^3 \times 10^2$

Answer:_____
(1 mark)

Q14. Fern is thinking of a number.
It is larger than 30, and a square number which is also a power of 2.
What number is Fern thinking of?

Answer:_____
(1 mark)

Q15. Work out the value of $400 \times 10^4 \times 25 \times 10^3$, giving your answer as a power of 10.

Answer:_____
(2 marks)

Q16.   A colony of ants doubles in population every 5 days.

If there were 2 ants on the first of January, how many ants would there be on January 7th?

Answer:_____

Q17.   Given that $3^4 \times 312 = 25272,$ work out the value of $3^5 \times 312$
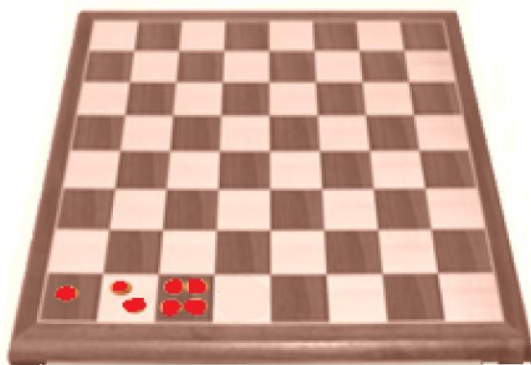
Answer:_____

(2 marks)

Q18. Given that $2^{12} = 4096$, write 8192 as a power of 2.

Answer:_____

Q19. Here is a chess board.

Jane puts 1 counter on the first square of the chess board, then 2 counters on the second, 4 on the third and so on.
Work out how many counters there will be in total after she has covered the first row of the board.

Answer:_____

(3 marks)