Word Problems with Exponents

Name: _____ Date: _____

Instructions: Read each problem carefully. Write your working and answer in the spaces provided. Remember: exponents tell us how many times to multiply a number by itself.

1. A square garden has sides that are 7 metres long. What is the area of the garden?

Working: _____

Answer: _____

2. A cube-shaped box has edges that are 4 cm long. What is the volume of the box?

Working: _____

Answer: _____

3. A bacteria colony doubles every hour. If there are 2 bacteria at the start, how many will there be after 5 hours? (Hint: 2^5)

Working: _____

Answer: _____

4. A square classroom floor has tiles arranged in a 9 × 9 pattern. How many tiles are there in total?

Working: _____

Answer: _____

5. Tom is stacking cubic blocks. Each block has edges of 3 cm. What is the volume of one block?

Working: _____

Answer: _____

6. A tournament has 3 rounds. In each round, the number of players triples. If there are 3 players at the start, how many players will there be after 3 rounds? (Hint: 3^3)

Working: _____

Answer: _____

7. A square photograph has sides measuring 12 cm. What is the area of the photograph?

Working: _____

Answer: _____

8. A computer file size doubles 4 times. If it starts at 2 megabytes, what is the final file size? (Hint: 2^4 then multiply)

Working: _____

Answer: _____

Remember: $5^2 = 5 \times 5 = 25$ | $4^3 = 4 \times 4 \times 4 = 64$