

# Master Maths 7 Worksheet 6

## Powers and Square Roots

# 6

**Name:** \_\_\_\_\_

1. Write the following terms in index form.

(a)  $2 \times 2 \times 2 \times 2$       (b)  $5 \times 5 \times 5$



2. (a) Complete the factor tree for each of the following numbers.

**8100**

**5488**

(b) Write these numbers as products of their prime factors.

8100 = \_\_\_\_\_

5488 = \_\_\_\_\_

(c) Write these numbers as products of their prime factors in *index form*.

8100 = \_\_\_\_\_

5488 = \_\_\_\_\_

3. Find the numbers represented by the products of prime numbers shown below.

(a)  $2^3 \times 3^2 \times 7^2$       (b)  $3^3 \times 5^2 \times 7^3$



4. Without using a calculator find the following.

(a)  $30^2$       (b)  $40^2$       (c)  $50^2$




5. Without using a calculator use the answers from question 4 to find the following.

(a) Choose which of the following alternatives is equal to  $39^2$ .

**A** 821    **B** 921    **C** 1521    **D** 1721   

(b) Choose which of the following alternatives is equal to  $43^2$ .

**A** 1849    **B** 2449    **C** 2649    **D** 3149   

6. Without using a calculator find the following.

(a)  $\sqrt{16}$     (b)  $\sqrt{25}$     (c)  $\sqrt{49}$     (d)  $\sqrt{64}$





7. Without using a calculator use the answers from question 6 to find the following.

(a) Which alternative is the approximate decimal answer to  $\sqrt{15}$ .

**A** 2.9    **B** 3.9    **C** 4.9    **D** 5.9   

(b) Which alternative is the approximate decimal answer to  $\sqrt{50}$ .

**A** 4.1    **B** 5.1    **C** 6.1    **D** 7.1   

8. Without using a calculator find which of the following alternatives is the best estimate of  $9.3^2$ ?

**A** 78.5    **B** 86.5    **C** 97.5    **D** 107.5