

## GCSE MATHEMATICS

Foundation tier

Number

Topic test – Indices practice

v1.0

Name \_\_\_\_\_

### Materials

**For this paper you must have:**

- Mathematical instruments
- You must not use a calculator



### Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 30.

### Advice

- In all calculations, show clearly how you work out your answer.

For Teacher's Use	
Pages	Mark
2 - 3	
4 - 5	
<b>TOTAL</b>	

**1 (a)** Work out  $9^2$

**[1 mark]**

Answer \_\_\_\_\_

**1 (b)** Work out  $3^3$

**[1 mark]**

Answer \_\_\_\_\_

**1 (c)** Work out  $2^5$

**[1 mark]**

Answer \_\_\_\_\_

**1 (d)** Work out  $\sqrt{64}$

**[1 mark]**

Answer \_\_\_\_\_

**1 (e)** Work out  $\sqrt[3]{8}$

**[1 mark]**

Answer \_\_\_\_\_

**1 (f)** Work out  $10^6$

**[1 mark]**

Answer \_\_\_\_\_

**2 (a)** Write  $6^2 \times 6^7$  as a single power of 6

**[1 mark]**

\_\_\_\_\_

Answer \_\_\_\_\_

**2 (b)** Write  $8^{10} \div 8^2$  as a single power of 8

[1 mark]

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Answer \_\_\_\_\_

**2 (c)** Write  $(3^2)^3$  as a single power of 3

[2 marks]

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Answer \_\_\_\_\_

**2 (d)** Write  $2^8 \div 2^4$  as a whole number.

[2 marks]

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Answer \_\_\_\_\_

**3** Work out  $\sqrt{144} - (10 - 2 \times 4)^2$

[3 marks]

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Answer \_\_\_\_\_

4 Work out the value of  $\sqrt{(5^2)} + {}^3\sqrt{(10^3)}$

[2 marks]

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Answer \_\_\_\_\_

5 Work out  $\sqrt{(4^3 + 6^2)}$

[3 marks]

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Answer \_\_\_\_\_

6 Work out  $\frac{7^6 \div 7^2}{7^5 \div 7}$

[3 marks]

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Answer \_\_\_\_\_

7 Which is greater  $\sqrt{(6^2 + 8^2)}$  or  $\sqrt[3]{(5^2 + 10^2)}$

[4 marks]

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Answer \_\_\_\_\_

8 If  $x = 4$  and  $y = 3$

Work out the value of  $xy - x^y$

[3 marks]

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Answer \_\_\_\_\_

**END OF QUESTIONS**