1.12 Indices and the Index Laws: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Use index laws to simplify each expression. Give answers in simplest form.

(a) $(a^3\ b^2)\ (a^2\ b^4)$ **(2)**

(b) $5^4 / 5^2$ **(2)**

2 Work out $3^3 \div 3^2$.

(2)

3 Write $7^2 \times 7^8$ as a single power of 7.

(1)

4 Find the value of x in $2^x \times 2^5 = 2^8$.

(2)

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Mark scheme · 1.12 Indices and the Index Laws: 10-minute Pack

Question 1

(a) add indices of a and b separately: a^{3+2} and b^{2+4}	M1
(a) a^5 b^6 cao	A1

(a) Answer: **a^5 b^6**

(b) subtract indices: 4 - 2 = 2	M1
(b) 25 cao	A1

(b) Answer: **25**

Question 2

uses the laws of indices to write as a single power or evaluates each power correctly	M1
3 cao	A1

Answer: **3**

Question 3

7^{10} cao	B1

Answer: **7^{10}**

Question 4

x + 5 = 8 or equivalent	M1
3 cao	A1

Answer: **3**

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