

SMART EXAM RESOURCES  
STAGE 9 MATHEMATICS  
TOPIC QUESTIONS  
TOPIC: INDICES  
SET-2

1.

- (a) Find the value of  $137^0$ .

..... [1]

- (b)  $7^{12} \div 7^p = 7^{17}$

Find the value of  $p$ .

$p =$  ..... [1]

MARK SCHEME:

(a)	1	<b>1</b>	
(b)	-5	<b>1</b>	

2.

Simplify.

(a)  $n^5 \times n$

..... [1]

(b)  $8x^6 \div 2x^2$

..... [2]

MARK SCHEME:

(a)	$n^6$ final answer	<b>1</b>	
(b)	$4x^4$ final answer	<b>2</b>	<b>B1</b> for $kx^4$ or $4x^h$ final answer or for correct answer seen then spoiled

3.

Calculate  $0.3^2$  .  
Give your answer in standard form.

..... [2]

MARK SCHEME 3:

$9 \times 10^{-2}$	<b>2</b>	<b>B1</b> for 0.09 oe or <b>M1</b> for <i>their</i> decimal correctly converted to standard form if negative power
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4.

Find the **exact** value of

(a)  $3^{-2}$ ,

*Answer (a)* ..... [1]

(b)  $\left(1\frac{7}{9}\right)^{\frac{1}{2}}$ .

*Answer (b)* ..... [2]

MARK SCHEME:

<b>(a)</b> $\frac{1}{9}$ <b>(b)</b> $1\frac{1}{3}$	<b>1</b> <b>2*</b>	Allow 0.1recurring only <b>M1</b> for $\frac{16}{9}$ Allow $\frac{4}{3}$ or 1.3 recurring only If no marks scored allow <b>SC1</b> for 0.111 and 1.33
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5.

Find the value of  $n$  in each of the following statements.

(a)  $32^n = 1$

Answer(a)  $n =$  ..... [1]

(b)  $32^n = 2$

Answer(b)  $n =$  ..... [1]

(c)  $32^n = 8$

Answer(c)  $n =$  ..... [1]

MARK SCHEME 5:

(a) 0	1	
(b) 0.2 or $\frac{1}{5}$	1	
(c) 0.6 or $\frac{3}{5}$	1✓	(b) x 3