2.25 Number and Place Value Challenge: 10-minute Pack

Total Marks

GL ASSESSMENT EP.M25 · Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

Number and Place Value Challenge

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A scholarship-level number skills paper for 11+ preparation. It covers place value into the millions and decimals, negative numbers, rounding and estimation, factors, multiples and primes, powers and roots, and the correct order of operations. Questions are ramped from warm-up recall items to demanding multi-step problems designed to stretch the strongest candidates.

1 Using each of the digit cards 0, 7, 3, 9 once, what is the smallest odd 4-digit number that can be made?

- ☐ A) 3,097
- ☐ B) 379
- ☐ C) 9,730
- ☐ D) 3,080
- ☐ E) 3,079

2 Work out $\sqrt{144} + \sqrt{9}$.

(1)

3 Work out $(18 - 6) / 3 + 2^2$.

(2)

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4 How many thousands are there in 4,500,000?

- ☐ A) 45
- ☐ B) 450
- ☐ C) 45,000
- ☐ D) 4,500
- ☐ E) 450,000

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5 Write down all the prime numbers between 40 and 60.

(2)

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6 What is the smallest multiple of 7 that is greater than 200?

(1)

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7 St Aidan's Primary School orders 587 rulers at a cost of 21p each. By rounding each number to 1 significant figure, estimate the total cost of the order in pounds.

(2)

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8 Priya has two lengths of ribbon, 48 cm and 60 cm. She wants to cut both into pieces of equal length, as long as possible, with no ribbon left over. What length should each piece be?

(2)

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Mark scheme · 2.25 Number and Place Value Challenge: 10-minute Pack

Question 1

correct option E (3,079) cao **B1**

Answer: E) 3,079

Question 2

15 cao **B1**

Answer: 15

Question 3

evaluates the bracket, division and power in the correct order, reaching 4 and 4 oe **M1**

8 cao **A1**

Answer: 8

Question 4

correct option D (4,500) cao **B1**

Answer: D) 4,500

Question 5

at least four of 41, 43, 47, 53, 59, with no more than one number that is not prime **B1**

all five (41, 43, 47, 53, 59) and no other numbers **B1**

Answer: 41, 43, 47, 53, 59

Question 6

203 cao **B1**

Answer: 203

Question 7

rounds both values to 1 significant figure: 587 to 600 and 21 to 20 oe **M1**

£120 cao (accept 12,000p), awrt **A1**

Answer: £120 (12,000p)

Question 8

writes 48 and 60 as products of prime factors ($48 = 2^4 \times 3$, $60 = 2^2 \times 3 \times 5$) or lists their factors oe **M1**

12 cm cao **A1**

Answer: 12 cm

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