

E1.1 Integers, HCF/LCM, Prime Numbers, Rational/Irrational Numbers, Sig Figs, Dec Places

Question Paper

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Level	Core
Topic	E1. Number
Sub-Topic	E1.1 Integers, HCF/LCM, Prime numbers, Rational/Irrational Numbers, Sig Figs, Dec Places
Booklet	Question Paper

Time Allowed: 90 minutes

Score: /75

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

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1 Find the lowest common multiple (LCM) of 36 and 48. [2]

2 (a) 3 6 19 20 24 27 30 32 35 36 48 49 51

From this list of numbers write down

(i) a factor of 15, [1]

(ii) a multiple of 18, [1]

(iii) an odd square number, [1]

(iv) a cube number. [1]

(b) Write as a percentage.% [1]

(i) 0.43

(ii) $\frac{1}{2}$ % [1]

(c) Write $\frac{28}{42}$ in its lowest terms. [1]

(d) (i) Write 45 as a product of its prime factors. [2]

(ii) Find the highest common factor (HCF) of 45 and 105. [2]

3 Write 3.5897 correct to 4 significant figures.

..... [1]

4 (a) Here are five number cards.



Place two cards side-by-side to show

(i) a two-digit multiple of 7,

[1]

(ii) a two-digit square number,

[1]

(iii) a two-digit cube number,

[1]

(iv) a two-digit prime number.

[1]

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- (b) $\sqrt{2}$ 5.85 4.1^2 π

Write down all the numbers in this list that are irrational.

..... [1]

- (c) Put one pair of brackets into this calculation to make it correct.

$$7 \times 5 - 2 + 3 = 42 \quad [1]$$

- (d) Work out.

(i) $\sqrt[3]{0.729}$

..... [1]

(ii) 5^4

..... [1]

(iii) 4^{-2}

..... [1]

- (e) (i) Write 60 as a product of its prime factors.

..... [2]

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8 (a) For the integers from 40 to 70, write down

(i) a multiple of 19,

..... [1]

(ii) a common multiple of 6 and 8,

..... [1]

(iii) the square root of 2500,

..... [1]

(iv) a factor of 106,

..... [1]

(v) an odd number where the tens digit is double the units digit,

..... [1]

(vi) a number that is **both** a square number **and** a cube number,

..... [1]

(vii) a number that has exactly 3 factors,

..... [1]

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(viii) three prime numbers.

.....,, [2]

(b) Write 234 as a product of its prime factors.

..... [2]

(c) Write the answer to $3^4 \times 3^7$

(i) in the form 3^x ,

..... [1]

(ii) as an integer,

..... [1]

(iii) in standard form.

..... [1]

(d) (i) Write 3^{-2} as a fraction.

..... [1]

(ii) Find the value of $3x^0$ when $x = 5$.

..... [1]

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9 Write down, in figures, seventeen thousand and seventeen.

..... [1]

10 (a) Write 6789 correct to the nearest 100.

..... [1]

(b) Write 6789 correct to 3 significant figures.

..... [1]

11 (a) Write 2016 as the product of prime factors.

..... [3]

(b) Write 2016 in standard form.

..... [1]

12 The temperature in Berlin is -7°C and the temperature in Istanbul is -3°C .

(a) Write down how many degrees colder it is in Berlin than it is in Istanbul.

Answer(a) $^{\circ}\text{C}$ [1]

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(b) Sydney is 23 degrees warmer than Berlin.

Write down the temperature in Sydney.

Answer(b) °C [1]

13 Six donkeys are **each** given two 5 ml spoons of medicine three times each day.

Calculate the number of whole days a 2 litre bottle of medicine will last.

Answer days [3]

14 (a) Write 30 as a product of its prime factors.

Answer(a) [2]

(b) Find the lowest common multiple (LCM) of 30 and 45.

Answer(b) [2]

15 (a) Write down

(i) two factors of 12, Answer(a)(i) [1]

(ii) the next prime number after 19, Answer(a)(ii) [1]

(iii) the cube root of 64, Answer(a)(iii) [1]

(iv) two million five hundred and seven in figures, Answer(a)(iv) [1]

(v) two multiples of 75, Answer(a)(v) [1]

(vi) the value of π correct to 5 significant figures. Answer(a)(vi) [1]

(b) Write as a percentage.

(i) 1.63 Answer(b)(i) % [1]

(ii) $\frac{3}{40}$ Answer(b)(ii) % [1]

(c) (i) Write 63 521.769 correct to 1 decimal place.

Answer(c)(i) [1]

(ii) Write 63 521.769 correct to the nearest hundred.

Answer(c)(ii) [1]

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(d) (i) Change 234 mm into metres.

Answer(d)(i) m [1]

(ii) Change 876 m^2 into square centimetres.

Answer(d)(ii) cm^2 [1]