INTERNATIONAL MATHEMATICS

0607 P3

2020 - 2025

QUESTIONS + ANSWERS

1 - (0607/31_Summer_2020_Q2) ANSWER

(a) 1 2 3 4 5 6 7 8 9 10

From this list of numbers, write down

(i) a square number,

..... [1]

(ii) a triangle number,

..... [1]

(iii) a prime number,

..... [1]

(iv) a factor of 13,

..... [1]

(v) a multiple of 6.

..... [1]

(b) Work out 65% of 34.

..... [2]

(c) Write 9876.543

(i) correct to 2 decimal places,

..... [1]

(ii) correct to 4 significant figures,

..... [1]

(iii) correct to the nearest hundred.

..... [1]

(d) Write your answer to **part (c)(iii)** in standard form.

..... [1]

(e) Work out.
Give each answer as a fraction in its simplest form.

(i) $\frac{2}{5}+\frac{1}{3}$

..... [1]

(ii) $\frac{5}{8}-\frac{1}{4}$

..... [1]

(iii) $3\frac{3}{10}\times\frac{5}{6}$

..... [1]

2 - (0607/31_Summer_2020_Q5) ANSWER

(a) Cinzia goes to the zoo with her mother.
Cinzia is 12 years old.
The entrance fee is $25 for each adult and $14 for each child under the age of 16 years.

Work out the **total** entrance fee for Cinzia and her mother and how much change they receive from $50.

Total entrance fee $ .....

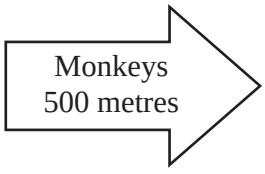
Change $ ..... [2]

(b) Cinzia and her mother arrive at the zoo at 11 35 and leave at 15 45.

Find the time, in hours and minutes, that they are at the zoo.

..... h ..... min [1]

(c) Cinzia sees this notice.



Cinzia can walk at 5 km/h.

Find how many minutes it takes Cinzia to walk to the monkeys.

..... min [3]

3 - (0607/32_Summer_2020_Q1) ANSWER

(a) Write down a multiple of 7.

..... [1]

(b) Here are the factors of 99.

1 3 9 11 33 99

Write down the factors that are prime.

..... [2]

(c) Write down all of the factors of 20.

..... [2]

(d) Write 54 as a product of its prime factors.

..... [2]

(e) For an activity, students are split into groups.
The students can be split exactly either into groups of 15 or into groups of 21.

Work out the smallest number of students taking part in the activity.

..... [2]

4 - (0607/32_Summer_2020_Q2) ANSWER

(a) The temperature, in °C, in each of five cities is listed in the table.

City	Temperature (°C)
Amsterdam	−4
Dublin	5
Oslo	−11
Venice	6
Warsaw	9

(i) Write down which city is the coldest.

..... [1]

(ii) Work out the difference in temperature between Amsterdam and Warsaw.

..... °C [1]

(iii) Work out the difference in temperature between Amsterdam and Oslo.

..... °C [1]

(b) Chris climbs from Kathmandu to the top of Mount Everest.
He uses this formula to find the temperature, T °C, at different heights, H metres, above sea level.

$$T = -0.008 \times H + 30$$

(i) The top of Mount Everest is 8850 m above sea level.

Show that the temperature at the top of Mount Everest is −40.8 °C.

[1]

(ii) Kathmandu is 1400 m above sea level.

Work out the temperature in Kathmandu.

..... °C [1]

(iii) The temperature at Everest Base Camp is −12.4 °C.

Work out the height of Everest Base Camp above sea level.

..... m [2]

(iv) Rearrange this formula to make H the subject.

$$T = -0.008 \times H + 30$$

H = ... [2]

5 - (0607/32_Summer_2020_Q6) ANSWER

(a) Write each of these ratios in its simplest form.

(i) 6 : 30

..... : ..... [1]

(ii) 75 cents : 2 dollars

..... : ..... [2]

(b) **(i)** One year, Amir earns $85 000.
He pays $\frac{1}{5}$ of this in tax.

Work out how much Amir pays in tax.

$ ..... [1]

(ii) The next year, the $85 000 that Amir earns is increased by 3%.

Work out how much Amir now earns.

$ ..... [2]

(iii) Another year, Amir receives a bonus of $8400.
He decides to use this bonus for savings and for pleasure in the ratio

savings : pleasure = 1 : 5.

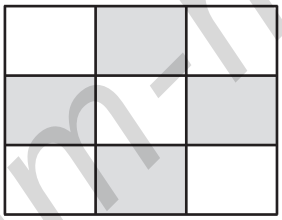
Work out how much of the bonus Amir uses for savings and how much he uses for pleasure.

Savings $ .....

Pleasure $ ..... [2]

6 - (0607/31_Winter_2020_Q1) ANSWER

(a)



Write down the fraction of the shape that is shaded.

..... [1]

(b)

Shade 30% of this shape. [1]

(c) Write as a decimal.

(i) 60%

..... [1]

(ii) $\frac{3}{4}$

..... [1]

(d) Work out.

(i) 6^3

..... [1]

(ii) $5.9 + 3.3 \div 2.3$

Give your answer correct to 2 decimal places.

..... [2]

7 - (0607/31_Winter_2020_Q3) ANSWER

(a) Sonny's old car is for sale at \$5500.
Paula pays him $\frac{2}{3}$ of this price.

Work out how much Paula pays.
Give your answer correct to the nearest dollar.

\$ ..... [2]

(b) Sonny buys a new car in a sale.
The original price of the car is \$18 000.
In the sale, this price is reduced by 12%.

Work out the sale price of the car.

\$ ..... [2]

(c) Sonny does some research about his new car.

(i) The car has a mass of 1.4 tonnes.

Work out the total mass of 8 of these cars.

..... t [1]

(ii) It took $4\frac{1}{2}$ years to develop the design of the car.

Change $4\frac{1}{2}$ years into months.

..... months [1]

(iii) The car can travel 2 km in 1 minute 24 seconds.

Change 1 minute 24 seconds into seconds.

..... seconds [1]

1 - (0607/31_Summer_2020_Q2) QUESTION

(a)(i)	1 or 4 or 9	**1**	
(a)(ii)	1 or 3 or 6 or 10	**1**	
(a)(iii)	2 or 3 or 5 or 7	**1**	
(a)(iv)	1	**1**	
(a)(v)	6	**1**	
(b)	22.1	**2**	**M1** for $\frac{65}{100}\times 34$
(c)(i)	9876.54	**1**	
(c)(ii)	9877	**1**	
(c)(iii)	9900	**1**	
(d)	$9.9[00]\times 10^3$	**1**	**FT** *their* (c)(iii)
(e)(i)	$\frac{11}{15}$	**1**	
(e)(ii)	$\frac{3}{8}$	**1**	
(e)(iii)	$\frac{11}{4}$ or $2\frac{3}{4}$	**1**	

2 - (0607/31_Summer_2020_Q5) QUESTION

(a)	39 11	**2**	**B1** for 39 **B1FT** for 50 – *their* 39 correctly evaluated
(b)	4 h 10 min	**1**	
(c)	6	**3**	**M2** for $\frac{500}{5\times 1000}\times 60$ oe or **M1** for $\frac{\text{distance}}{\text{speed}}$ soi $\frac{500}{5}$

3 - (0607/32_Summer_2020_Q1) QUESTION

(a)	Any multiple of 7	**1**	
(b)	3, 11 only	**2**	**B1** for each
(c)	1, 2, 4, 5, 10, 20	**2**	**B1** for 4 correct values
(d)	$2 \times 3 \times 3 \times 3$ or 2×3^3	**2**	**M1** for any correct product for 54 or **B1** for 2, 3, 3, 3
(e)	105	**2**	**M1** for checking at least 3 multiples of 15 and 21 or for 3×5 and 3×7 seen

4 - (0607/32_Summer_2020_Q2) QUESTION

(a)(i)	Oslo	**1**	
(a)(ii)	13	**1**	
(a)(iii)	7	**1**	
(b)(i)	$-0.008 \times 8850 + 30$ seen	**1**	
(b)(ii)	18.8	**1**	
(b)(iii)	5300	**2**	**B1** for $-12.4 - 30$ [$= -0.008H$] or better
(b)(iv)	$\frac{T-30}{-0.008}$ oe	**2**	**B1** for $T - 30 = -0.008H$

5 - (0607/32_Summer_2020_Q6) QUESTION

(a)(i)	1 : 5	**1**	
(a)(ii)	3 : 8	**2**	**M1** for 75[c] : 200[c] or for [$]0.75 : [$] 2
(b)(i)	17 000	**1**	
(b)(ii)	87 550	**2**	**M1** for $85\,000 \times \left(1 + \frac{3}{100}\right)$ oe
(b)(iii)	[Savings] 1400 [Pleasure] 7000	**2**	**M1** for $8400 \div (1 + 5)$ soi by 1400

6 - (0607/31_Winter_2020_Q1) QUESTION

(a)	$\frac{4}{9}$	**1**	
(b)	3 squares shaded	**1**	
(c)(i)	0.6[0]	**1**	
(c)(ii)	0.75	**1**	
(d)(i)	216	**1**	
(d)(ii)	7.33	**2**	**B1** for 7.334… If 0 scored, **SC1** for *their* answer greater than 2 d.p. correctly rounded to 2 d.p.

7 - (0607/31_Winter_2020_Q3) QUESTION

(a)	3667	**2**	**B1** for 3666.66… or **M1** for $\frac{2}{3} \times 5500$ If 0 scored, **SC1** for rounding *their* decimal to the nearest whole number
(b)	15 840	**2**	**M1** for $18\,000 \times \frac{12}{100}$ oe soi by 2160
(c)(i)	11.2	**1**	
(c)(ii)	54	**1**	
(c)(iii)	84	**1**	

8 - (0607/32_Winter_2020_Q1) QUESTION

(a)	One thousand, nine hundred [and] thirty-six	**1**	
(b)	84	**1**	
(c)	2035	**1**	
(d)	44	**1**	
(e)(i)	1940	**1**	
(e)(ii)	1900	**1**	
(e)(iii)	1.936×10^3	**1**	
(f)	Any multiple of 1936	**1**	