

## Topic 2 Number (Pre-TT) [39]

1. **Non-calculator**

- (a) Write 0.000 423 in standard form.  
(b) Write  $4.5 \times 10^4$  as an ordinary number.

(Total 2 marks)

2.

Circle the decimal that is closest in value to  $\frac{2}{3}$

[1 mark]

0.6

0.66

0.667

0.67

3.

- (a) Express 144 as the product of its prime factors.  
Write your answer in index form.

(3)

- (b) Find the Highest Common Factor (HCF) of 60 and 144.

(2)

(Total 5 marks)

4.

Simplify  $3^4 \times 3^4$

Circle the answer.

[1 mark]

$3^8$

$9^8$

$3^{16}$

$9^{16}$

5.

Work out  $2\frac{3}{5} + 1\frac{2}{3}$

(Total 2 marks)

6. **Non-calculator**

- (a) Add  $3.4 \times 10^5$  and  $9.5 \times 10^5$   
Give your answer in standard form.

(2)

- (b) Multiply  $4 \times 10^8$  and  $1.6 \times 10^{-5}$   
Give your answer in standard form.

(2)

(Total 4 marks)

7.

Work out  $2\frac{3}{4} \times 1\frac{5}{7}$

Give your answer as a mixed number in its simplest form.

[3 marks]

8.

Simplify

(a)  $m^2 \times m^5$  (1)

(b)  $p^6 \div p^3$  (1)

(c)  $(q^4)^2$  (1)

(Total 3 marks)

9.

$a \times 10^4 + a \times 10^2 = 24\,240$  where  $a$  is a number.

Work out  $a \times 10^4 - a \times 10^2$

Give your answer in standard form.

[2 marks]

10.

Simplify

(a)  $c \times c \times c \times c$  (1)

(b)  $d^3 \times d^2$  (1)

(c)  $\frac{e}{e^8}$  (1)

(d)  $(2g^2h^4) \times (3g^3h)$  (2)

(Total 5 marks)

11.

A railway station has two platforms.

Trains stop at the northbound platform every 15 minutes.

Trains stop at the southbound platform every 18 minutes.

Two trains stopped together at 15 12.

(a) Work out the next time two trains stop together at this station.

(b) Write down two assumptions that were necessary to solve this problem.

(Total 6 marks)

12.

(a) Write  $\frac{7}{11}$  as a recurring decimal.

(b) Convert  $0.3\dot{6}$  to a fraction.  
Give your answer in its lowest terms.

(Total 5 marks)