

Name: _____

GCSE Unit 1 Practice Assessment

Date: _____

Time: 50 minutes

Total marks available: 48

Total marks achieved: _____

Questions

Q1.

Using the information that

$$6.7 \times 52 = 348.4$$

find the value of

(i) 6.7×520

.....

(ii) 67×0.52

.....

(iii) $3484 \div 5.2$

.....

(Total for Question is 3 marks)

Q2.

Nick has 2 cars.
Car A uses petrol.
Car B uses diesel.

Petrol costs £1.39 per litre.
Diesel costs £1.47 per litre.

The table below shows the average distance that Nick can drive each car using 1 litre of fuel.

Car A	10.3 miles per litre of petrol
Car B	14.6 miles per litre of diesel

Nick is going on a journey in one of his cars.
The distance Nick is going to drive is 450 miles.

Work out the difference of the total costs of the fuel for the 2 cars for this journey.

£.....

(Total for question = 4 marks)

Q3.

Work out an estimate for $\frac{31 \times 9.87}{0.509}$

.....
(Total for Question is 3 marks)

Q4.

Margaret has some goats.

The goats produce an average total of 21.7 litres of milk per day for 280 days.

Margaret sells the milk in $\frac{1}{2}$ litre bottles.

Work out an estimate for the total number of bottles that Margaret will be able to fill with the milk.

You must show clearly how you got your estimate.

.....
(Total for Question is 3 marks)

Q5.

Write down the value of

(i) 7^0

(ii) 5^{-1}

(iii) $9^{\frac{1}{2}}$

.....
(Total for Question is 3 marks)

Q6.

(a) Write down the value of 10^0

.....
(1)

(b) Write down the value of 10^{-2}

.....
(1)

(c) Write these numbers in order of size.
Start with the smallest number.

2.73×10^3 27.3×10^{-3} 273×10^2 0.00273

.....
(2)

(Total for Question is 4 marks)

Q7.

(a) Simplify $5^4 \times 5^6$

.....
(1)

(b) Simplify $7^5 \div 7^2$

.....
(1)

(Total for Question is 2 marks)

Q8.

Write 525 as a product of its prime factors.

.....
(Total for Question is 3 marks)

Q9.

There are 17 men and 26 women in a choir.
The choir is going to sing at a concert.

One of the men and one of the women are going to be chosen to make a pair to sing the first song.

(a) Work out the number of different pairs that can be chosen.

.....
(2)

Two of the men are to be chosen to make a pair to sing the second song.

Ben thinks the number of different pairs that can be chosen is 136
Mark thinks the number of different pairs that can be chosen is 272

(b) Who is correct, Ben or Mark?
Give a reason for your answer.

.....
.....
(1)
(Total for question = 3 marks)

Q10.

Marie has 25 cards.

Each card has a different symbol on it.

Marie gives one card to Shelley and one card to Pauline.

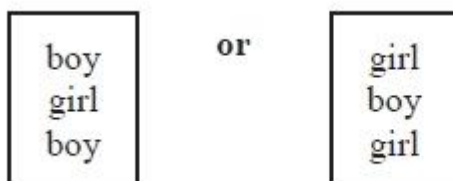
(a) In how many different ways can Marie do this?

.....
(2)

There are 12 boys and 10 girls in David's class.

David is going to pick three different students from his class and write their names in a list in order.

The order will be



(b) How many different lists can David write?

.....
(3)
(Total for question = 5 marks)

Q11.

Work out the value of $(7.5 \times 10^4) \times (2.5 \times 10^3)$
Give your answer in standard form.

.....

(Total for Question is 2 marks)

Q12.

An object is travelling at a speed of 2650 metres per second.

How many seconds will the object take to travel a distance of 3.45×10^{10} metres?
Give your answer in standard form, correct to 2 significant figures.

..... seconds

(Total for Question is 3 marks)

Q13.

(a) Write down the value of 10^{-1}

.....
(1)

(b) Find the value of $27^{\frac{2}{3}}$

.....
(2)

(c) Write $\sqrt{75}$ in the form $k\sqrt{3}$, where k is an integer.

.....
(2)

(Total for Question is 5 marks)

Q14.

(a) Rationalise the denominator of $\frac{12}{\sqrt{3}}$

.....
(2)

(b) Work out the value of $(\sqrt{2} + \sqrt{8})^2$

.....
(2)

(Total for Question is 4 marks)