

B -Subject Knowledge and Understanding for Primary Teaching.

SAMPLE

**30 minutes. No calculator allowed. Please answer in the spaces provided.
Show your workings where applicable.**

Name: _____ **Group:** _____

Question 1

Write the missing numbers in the table.

First Number	Second Number	Sum of first and second number	Product of first and second number
3	6		
5	-3		
-8		-5	
0.5	0.25		

3m

Question 2



For each question use **any two** of these digit cards to make:

1. A multiple of 4 **A:** ____ ____ **(1m)**
2. A square number **A:** ____ ____ **(1m)**
3. A prime number **A:** ____ ____ **(1m)**
4. A two digit factor of 100 **A:** ____ ____ **(1m)**
5. The quotient of 28 and 2. **A:** ____ ____ **(1m)**

Question 3

a) Multiply 324 by 67

A: _____ **(1m)**

b) Subtract 12.76 from 134.03

A: _____ **(1m)**

c) Add 134.87 and 56.94

A: _____ **(1m)**

Question 4

How many eighths are there in one quarter?

A: _____ **(1m)**

Now work out $\frac{3}{4} \div \frac{1}{8}$

A: _____ **(1m)**

Question 5

- (a) Some of the fractions below are **smaller than $\frac{1}{9}$**

Tick (✓) them.

☐ $\frac{1}{10}$

☐ $\frac{4}{9}$

☐ $\frac{1}{2}$

☐ $\frac{1}{100}$

☐ $\frac{1}{8}$

(1m)

- (b) To the nearest per cent, what is **$\frac{1}{9}$** as a percentage?

Tick (✓) the correct percentage.

☐ 0.9%

☐ 9%

☐ 10%

☐ 11%

☐ 19%

(1m)

- (c) Complete the sentence below by writing a **fraction in its lowest terms**

$\frac{1}{9}$ is **half of** _____ **(1m)**

Question 6

Prize money

Gary took part in a quiz show and won a **million pounds**.

He spent **£20 000** on a holiday.

Then he spent **half** of the **money left** on a house.

How much did Gary's house cost?

A: Gary's house cost: _____ **(2m)**

Question 7

True or False? Put T (for True) or F (for False) next to each statement.

- a) Dividing by $\frac{1}{2}$ is the same as doubling. _____
- b) Adding and doubling are the same. _____
- c) Multiplying by 0 is the same as adding 0. _____
- d) Subtracting -2 is the same as adding 2. _____

(1m)

Question 8

For the sequence 3, 5, 7, 9, 11 the following table can be made. Use the table to answer the questions below.

Term no. (x)	1	2	3	4	5	6	7	8	9	10
y	3	5	7	9	11	13	15	17	19	21

a) What will the 20th term be?

A: _____

(1m)

b) What will the 100th term be?

A: _____

(1m)

c) Write the algebraic relationship between x and y

A: _____

(1m)

Question 9

True or False? Put T (for True) or F (for False) next to each statement.

- a) A litre is more than a pint. _____
- b) A kilometre is further than a mile. _____
- c) Most adult shoes have a length more than 0.5m. _____
- d) An apple would usually weigh around 0.001kg. _____

(1m)

Question 10

- a) Give another name for a **parallelogram with no right angles and four equal sides**

_____ **(1m)**

- b) In the space below draw **three hexagons which are not similar**.

(1m)

- c) Are all rectangles parallelograms? Explain your answer.

(1m)

Question 11

Is it possible for a scalene triangle to have two obtuse angles? **Explain your answer.**

(1m)

Question 12

A rectangle has a length of 5.5cm and a height of 3.5cm.

a) What is the **perimeter** of the rectangle?

A: _____ cm

(1m)

b) What is the **area** of the rectangle?

A: _____ square cm

(1m)

Question 13 Using volume as a measure

A cuboid has a length of 9cm, a height of 6cm and a depth of 3cm.

How many cubes of side 3cm will fit inside the cuboid?

A: _____ cubes of side 3cm will fit inside the cuboid
(1m)

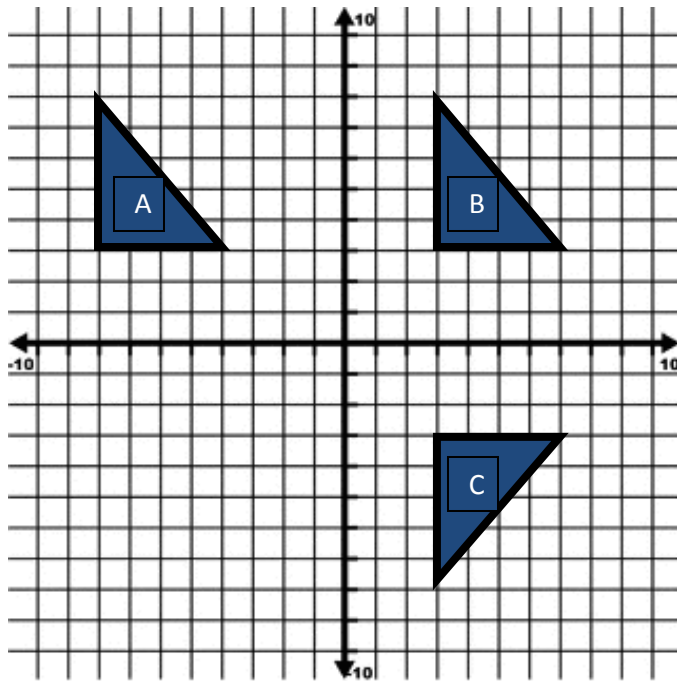
Question 14

True or False?

- a) A cube is also a cuboid. _____
- b) A cuboid is a prism. _____
- c) A square based pyramid is a tetrahedron. _____
- d) A dodecahedron has 20 faces. _____

(1m)

Question 15



- a) Two of the co-ordinates of the vertices of triangle A are: $(-4, 3)$, $(-8, 3)$.
What is the co-ordinate of the other vertex?

A: _____ (1m)

- b) Are Triangles A, B and C are congruent triangles? Explain your answer.

(1m)

- c) Complete the following sentence so that it is true:

Triangle _____ is a reflection of Triangle _____ in the _____ axis
(1m)

Question 16

An octahedral dice has each face numbered consecutively starting at 1. **Are these probability statements True or False? Put T (for True) and F (for False).**

a) There is an equally likely chance of rolling an odd or an even number.

b) It is impossible that I can roll 12. _____

c) It is certain that I will roll a number greater than 9. _____

d) It is certain that I will roll a number greater than 1. _____

(1m)

Question 17

I think of a number. **4%** of my number is **42**

(a) What is **40%** of my number?

A: 40% of my number is:_____ **(1m)**

(b) What is my number?

A: My number is:_____ **(1m)**

Question 18

Calculate $913 \div 26$

A: _____ (1m)

Question 19

Work out the **number** that is halfway between 27×38 and 33×38

A: _____ (1m)

Question 20

Subtract four thousand nine hundred and ninety four from ten thousand and eight. Write your answer in figures.

A: _____

(1m)

TOTAL MARKS = _____ out of 40

= _____ %