**Numeracy Test Questions**

**Mental Arithmetic (15 marks):**

You are not permitted to use a calculator or any written methods for this portion of the test.

Question 1:

In a year group of 110 pupils, 66 pupils have school dinners.

What proportion of the year group do not have school dinners? (Give your answer as a decimal.)

Answer: \_\_\_\_\_0.4\_\_\_\_\_

Question 2:

In a year group of 120 pupils, 75% achieved a Level 4 or Level 5 in Key Stage 2 English. 65 pupils achieved a Level 4.

How many pupils achieved a Level 5?

Answer: \_\_\_\_\_25\_\_\_\_\_ pupils

Question 3:

In a year group of 120 pupils, 15 achieved an A\* in GCSE English.

What percentage of the year group achieved an A\* in GCSE English?

Answer: \_\_\_\_\_12.5\_\_\_\_\_ %

Question 4:

A pupil entering a Year 6 class has an actual age of 10 years 11 months. The report from his previous school states that his reading age is 15 months above his actual age.

What is the pupil's reading age in years and months?

Answer: \_\_\_\_\_12\_\_\_\_\_ years \_\_\_\_\_2\_\_\_\_\_ months

Question 5:

A sixth form group raises £82.50 for charity.

The money will be equally divided between three charities.

How much money will each charity receive from the group?

Answer: £ \_\_\_\_\_27.50\_\_\_\_\_

Question 6:

A teacher attends a consortium meeting. The journey is 7.5 miles each way. Travel expenses may be claimed at 40p per mile.

How much is the teacher entitled to claim for travel expenses?

Answer: £ \_\_\_\_\_6\_\_\_\_\_

Question 7:

A primary school has 60 pupils in Year 6. Twenty-four of these pupils achieved three Level 5s in the Key Stage 2 tests.

What proportion of the year group achieved three Level 5s? (Give your answer as a decimal.)

Answer: \_\_\_\_\_0.4\_\_\_\_\_

Question 8:

A teacher plans a school trip which includes a 152-kilometre coach journey in France. As an approximation, 8 kilometres is equal to 5 miles.

Using this approximation, how long is the journey in miles?

Answer: \_\_\_\_\_95\_\_\_\_\_ miles

Question 9:

For a practical task, a primary teacher needs 25 millilitres of liquid for each pupil. There are 28 pupils in the class.

How many millilitres of liquid are needed?

Answer: \_\_\_\_\_700\_\_\_\_\_ millilitres

Question 10:

A group activity contains two tasks. In the first task all 5 members of a group achieve 3 marks each. In the second task 2 members achieve 4 marks each and the other 3 members achieve 3 marks each.

What is the total number of marks achieved by the group?

Answer: \_\_\_\_\_32\_\_\_\_\_ marks

Question 11:

A school trip is planned for 56 pupils. There must be at least one adult for every 8 pupils.

What is the minimum number of people on the trip?

Answer: \_\_\_\_\_63\_\_\_\_\_ people

Question 12:

A lesson begins at 11:40. The teacher prepares a 10-minute introduction followed by a 15-minute video clip and then a 25-minute activity.

At what time does the activity end? (Give your answer using the 24 hour clock)

Answer: \_\_12\_\_:\_\_30\_\_ hours

Question 13:

A school's policy for Key Stage 2 was to set three and a half hours of homework per week.

What was the mean number of minutes to be spent on homework per weekday evening?

Answer: \_\_\_\_\_42\_\_\_\_\_ minutes

Question 14:

The morning session in a school began at 09:25. There were three lessons of 50 minutes each and one break of 20 minutes.

At what time did the morning session end? (Give your answer using the 24-hour clock.)

Answer: \_\_12\_\_:\_\_15\_\_ hours

Question 15:

A teacher took a group of pupils to an aquarium whilst visiting France. The total entrance cost for the group was 160 euros.

Taking 1.6 euros as equal to one pound, what was the total entrance cost, in pounds, for the group of pupils?

Answer: £ \_\_\_\_\_100\_\_\_\_\_

**Written Arithmetic (15 marks):**

You may use a calculator and/or written methods for this section.

Question 1 (3 marks out of 15):

To inform her choice of reading materials, a primary teacher looked at the spread of reading ages in her class. The scatter graph shows the actual age and reading age of 21 pupils in the class.



What proportion of the class have the same reading age as their actual age? Give your answer as a decimal to one decimal place.

Answer: \_\_\_\_\_0.3\_\_\_\_\_

What is the highest reading age in the class?

Answer: 7 years, 7 months

What is the range of reading ages for the pupils in the class?

13 months - 19 months - 21 months

Question 2 (1 mark out of 15):

At a staff meeting, the head teacher presented the following table,

showing the number of pupils in each class in a school who are having

extra music lessons.

|  |  |  |
| --- | --- | --- |
| Class | Number of pupils | Number of pupils having extra music lessons |
| A | 25 | 5 |
| B | 30 | 5 |
| C | 30 | 5 |
| D | 28 | 7 |
| E | 26 | 5 |
| F | 29 | 6 |
| G | 18 | 6 |
| H | 24 | 5 |

What percentage of pupils in the school are having extra music lessons?

Give your answer to the nearest whole number.

Answer: \_\_\_\_\_21\_\_\_\_\_ %

Question 3 (1 mark out of 15):

A teacher calculated the mean points score achieved by pupils in an end of Key Stage 2 mathematics test. There were 48 pupils in the year group.

The mean points score is given by the formula:

Mean points score = total points for the year group / total number of pupils in the group

|  |  |  |  |
| --- | --- | --- | --- |
| Level achieved | Number of pupils | Points per level | Total points per level |
| 3 | 5 | 21 | 105 |
| 4 | 29 | 27 | 783 |
| 5 | 8 | 33 |  |
| 6 | 6 | 39 |  |
| Total | 48 |  |

The total points for Levels 3 and 4 have been done for you.

What was the mean points score for the year group? Give your answer to the nearest whole number.

Answer: \_\_\_\_\_29\_\_\_\_\_

Question 4 (1 mark out of 15):

A teacher is planning a group outing to see a play in a nearby city. She has been given details of costs and travel. There are 25 in the group, including pupils and teachers. A group booking for 25 theatre tickets costs £185. Return train tickets cost £5.65 each.

How much will each person have to pay for the outing to cover the cost of travel and theatre ticket?

Answer: £ \_\_\_\_\_13.05\_\_\_\_\_

Question 5 (1 mark out of 15):

A school parents' evening starts at 16:30 on each of two consecutive days.

A teacher has a total of 24 appointments lasting 10 minutes each and takes a 20 minute break each evening. The teacher filled all the available appointment slots on the first evening and finished at 19:00.

What is the earliest time the teacher can expect to finish on the second evening? (Give your answer using the 24-hour clock.)

Answer: \_\_18\_\_:\_\_40\_\_ hours

Question 6 (1 mark out of 15):

A teacher plans a school trip to Brussels, which involves using a ferry from Ostend. The teacher wants to be in Ostend no later than 18:00. She expects their coach to travel from Brussels to Ostend, a distance of 120km, at an average of 50 miles per hour.

Using the approximation of 5 miles equals 8 kilometres, what is the latest time that the coach should leave Brussels? (Give your answer using the 24-hour clock.)

Answer: \_\_16\_\_:\_\_30\_\_ hours

Question 7 (2 marks out of 15):

A sixth form tutor organises a sponsored swim. Five students in the tutor group take part in the swim and they decide to donate the money to two charities, X and Y, in the ratio 2 : 1. The tutor records the number of lengths they swim and the amount of money they raise.

|  |  |  |
| --- | --- | --- |
| Student | Number of lengths | Amount raised (£) |
| A | 10 | 9.50 |
| B | 9 | 11.20 |
| C | 10 | 13.20 |
| D | 8 | 10.05 |
| E | 9 | 12.15 |

How much money is given to charity X?

Answer: £\_\_\_\_\_37.40\_\_\_\_\_

Which student raised the most money per length?

Answer: \_\_\_\_\_E\_\_\_\_\_

Question 8 (1 mark out of 15):

In a portfolio-based science course, there are three grades: pass, merit and distinction. To select an appropriate sample from each class for internal moderation, the school uses a formula:

For each grade, select one portfolio for every five students. Round the number of students in each class at each grade upwards to the nearest five before making the selection. For example, with 8 students at a pass grade select 2 portfolios.

|  |  |  |  |
| --- | --- | --- | --- |
| Class | Pass | Merit | Distinction |
| A | 13 | 9 | 5 |
| B | 6 | 12 | 9 |

How many portfolios altogether should be included in the internal moderation sample for both classes?

Answer: \_\_\_\_\_13\_\_\_\_\_

Question 9 (1 mark out of 15):

A teacher is planning a weekend visit to Snowdonia with a group of students. The headteacher has given permission for the teacher to use the school minibus.

• The round trip will be approximately 350 miles.

• The minibus handbook gives the fuel consumption as 32 miles per gallon.

• The minibus uses diesel fuel which costs £1.13 per litre.

• 1 gallon = 4.546 litres.

What is the estimated fuel cost for the weekend trip? (Give your answer to the nearest pound.) Answer: £ \_\_\_\_\_56\_\_\_\_\_

Question 10 (1 mark out of 15):

An ICT teacher compares the cost of building a paper-based ICT portfolio with the cost of using commercial e-portfolio software. The number of pupils on the course is 125.

On average, each paper-based portfolio includes 75 printed pages.

Costs are:

printing - 2.5p per page

ring binder - 75p.

The total cost of the e-portfolio software is £250.00 per year.

How much money would the school save by using the e-portfolio software? (Give your answer to the nearest pound.)

Answer: £ \_\_\_\_\_78\_\_\_\_\_

Question 11 (1 mark out of 15):

For a school visit to Iceland, each of the 25 pupils is allowed to take £40.00 spending money. Prior to the visit, the teacher collected the money and exchanged it for Icelandic Krona.

The exchange rate was £1.00 = 141.50 Krona. Commission of 1% was charged.

How many Krona did each pupil have as spending money after the commission was deducted? (Give you answer to the nearest Krona.)

Answer: \_\_\_\_\_5603\_\_\_\_\_ Krona

Question 12 (1 mark out of 15):

A parents' evening is planned to last from 16:15 to 19:00. Within that time teachers will have a break from 17:30 until 17:45. Each appointment is scheduled to last 8 minutes.

What is the maximum number of appointments each teacher can have?

18 - 19 - 24 - 25