

Practice Paper 2 ; total marks 95

Q1.

1. Calculate 1/5 of 55

............................... (1)

1. Calculate 3/7 of 49

You must show your working

............................... (2)

**(Total 3 marks)**

Q2.

Which metric unit would you use to measure the following:

1. The weight of an adult

............................... (1)

1. The volume of liquid in a watering can

............................... (1)

1. The area of a kitchen

............................... (1)

**(Total 3 marks)**

Q3.

1. Round 362 km to the nearest hundred km

............................. km (1)

1. Round 4.4 m to the nearest m

..............................m

(1)

1. Round 5.05 cm to the nearest cm

............................cm. (1)

1. Round 4.91 to 1 decimal place

............................... (1)

**(Total 4 marks)**

Q4*.*

3 bottles of water cost £2.10.

1. How much does 1 bottle cost

............................... (1)

1. How much do 5 bottles cost?

You must show your working

............................... (2)

**(Total 3 marks)**

Q5*.*

An ambulance service has a target to respond to calls on average within 7 minutes and to respond to 90% of calls within 15 minutes.

They took a sample of 10 calls with the following response times (in minutes)

5 10 4 16 8 5 10 17 6 9

1. Calculate the mean response time

You must show your working

................................

(3)

1. Based on the mean, were they above or below the average 7 minute target?

................................

(1)

1. Did they respond to 90% of the calls within 15 minutes

You must show your working

................................

(2)

**(Total 6 marks)**

Q6.

A study was conducted to see how effective a weight loss drug was. Data was collected on weight loss and length of treatment and displayed in the following scatter diagram.

Weight loss (kg)

Months on treatment

2 more people’s records were collected. Gracie lost 6 kg in 10 months and Jack lost 1 kg in 3 months.

1. Add this data to the diagram

................................

(2)

1. Describe the correlation

.................................

(1)

1. Draw a line of best fit

................................

(1)

1. Estimate how much weight would be lost if a patient was on the drug for 5 months

You must show your working

................................

(1)

**(Total 5 marks)**

Q7*.*

1. Calculate 30% of £520

You must show your working

............................... (2)

1. Calculate 21% of £840

You must show your working

............................... (3)

**(Total 5 marks)**

Q8*.*

1. Convert 22 cm to mm

..........................mm. (1)

1. Convert 8.2 km to metres

.......................... m. (1)

1. Convert 3500 ml to litres

........................... l. (1)

**(Total 3 marks)**

Q9*.*

A bar records whether people drink beer or spirits.

Altogether, 54 drank beer and 41 drank spirits. 16 drank both and 9 drank neither.

|  |  |
| --- | --- |
| Beer | Spirits |
|  |  |

1. Fill in the Venn diagram

................................

(1)

1. How many people were in the survey?

................................

(1)

1. A customer was chosen at random. What is the probability that they drink only spirits

................................

(1)

**(Total 3 marks)**

Q10*.*

Here is a list of the number of patients seen by a GP each day over a week

20 23 18 22 27

1. Work out the median number of patients

............................... (1)

1. Calculate the range

You must show your working

............................... (2)

1. Calculate the mean

You must show your working

*...............................*  (3)

**(Total 6 marks)**

Q11.

A ward inspection starts at 9:15 a.m. and lasts for 1 hour and 50 minutes. What time does it finish

............................... (2)

**(Total 2 marks)**

Q12.

1. Izzy has to split her time between 2 wards. There are more patients in ward A than Ward B so she has to split her time between A and B in the ratio 3:2.

In her first 2 hours, how much time should she spend in each ward.

You must show your working

............................... (3)

1. The number of patients in wards C and D are in the ratio 3:1, If there are 15 patients in Ward D, how many are in Ward C.

You must show your working

............................... (3)

**(Total 6 marks)**

Q13.

The normal price of a coat is £110, The price is reduced by 20% in a sale. How much does Ewan pay for the coat. You must show your working

............................... (3)

**(Total 3 marks)**

Q14.

100 retired people were asked what exercise they did.

The results are partially filled in in the table below

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| AGE | WALKING | GYM | YOGA | TOTAL |
| 65 - 75 | 32 | 14 |  |  |
| 76+ |  | 0 | 24 |  |
| TOTAL | 44 |  |  | 100 |

1. Complete the table

............................... (3)

1. Calculate the probability that a person chosen at random goes walking. Give your answer as a fraction in its simplest form

You must show your working

............................... (2)

1. Calculate the probability that a person chosen at random is 76+ and does yoga

Give your answer as a fraction in its simplest form

You must show your working

*...............................* (2)

**(Total 7 marks)**

Q15.

The time needed to cook a chicken is given by the formula:

Time = 40 minutes per kg plus 20 minutes

Work out the time needed to cook :

a. a 2kg chicken

Give your answers in hours and minutes. You must show your working

............................... (2)

1. a 3kg chicken

Give your answers in hours and minutes. You must show your working

............................... (2)

**(Total 4 marks)**

Q16.

1. Write 2/5 as a decimal

............................... (1)

1. Write 0.23 as a percentage

............................... (1)

1. Write 24% as a fraction in its simplest form

You must show your working

............................... (2)

**(Total 4 marks)**

Q17.

A taxi firm charges fares using the formula:

Cost = £2 + 70p per mile

Work out how much

1. a journey of 5 miles would cost. You must show your working

............................... (2)

1. a journey of 11 miles. You must show your working

............................... (2)

Archie pays £6.90 for a ride.

1. How far did he travel. You must show your working

............................... (2)

**(Total 6 marks)**

Q18.

Ruby gets paid £9.50/hour. She gets paid an extra 30% for any overtime worked. In a week, Ruby works 40 hours, plus 3 hours of overtime.

1. Calculate her total pay. You must show your working

............................... (4)

In one week, Tricia earns £350. She has to pay 20% income tax and 12% national insurance

1. Calculate how much money she has left after paying her tax and national insurance. You must show your working

............................... (4)

**(Total 8 marks)**

Q19*.*

The table shows the temperature at 6 a.m. on 1 February in 4 cities

|  |  |
| --- | --- |
| City |  |
| Glasgow | -3 ͦ C |
| Leeds | 1 ͦ C |
| Newcastle | -1 ͦ C |
| Portsmouth | 4 ͦ C |

1. Which city had the lowest temperature

............................... (1)

1. What was the difference in temperature between Leeds and Glasgow

............................... (1)

1. In Glasgow, a reading of 5̊ C was taken at 1 p.m. on the same day. What was the increase in temperature

............................... (1)

**(Total 3 marks)**

Q20.

Ryan is organising a Christmas meal out.

9 people want to go to the restaurant.

The restaurant requires a deposit of £15 a head to be paid now and the balance to be paid on the night.

There are 2 festive menus available:

Menu A costs £25 a head and Menu B costs £30 per head

4 people choose Menu A and 5 people choose Menu B

Ryan has to work out :

1. How much deposit is required now. You must show your working

............................... (3)

1. What is the total balance that has to be paid on the night. You must show your working

............................... (3)

**(Total 6 marks)**

Q21*.*

Connor wants to buy 24 cartons of juice and the cartons come in packs of 6. Each pack costs £2.40.

In Shop A, there is 30% off if you buy 3 or more packs

In Shop B, the offer is Buy 3 packs, get 1 pack free

Which shop has the better offer. You must show your working

............................... (5)

**(Total 5 marks)**

END OF PRACTICE PAPER

**Practice paper –**

**mark scheme**

| **Qn** | **Answer** | **Mark** | **Notes** |
| --- | --- | --- | --- |
| **1a** | 11 | 1 |  |
| **1b** | 21 | 2 | 1 mark: visibility of 49 ÷ 7 = 7  2nd mark : 7 x 3 = 21 |
| **2a** | kg | 1 | Stones, pounds is incorrect as they are imperial measures |
| **2b** | litres | 1 | Accept “l” |
| **2c** | m² | 1 | Do not accept “m” without the “²” |
| **3a** | 400 | 1 |  |
| **3b** | 4 | 1 |  |
| **3c** | 5 | 1 |  |
| **3d** | 4.9 | 1 |  |
| **4a** | 70p | 1 | Accept 0.7 or 0.70  Do not accept 70 or 0.7 without £ or p |
| **4b** | £3.50 | 2 | Accept 350p  1 mark : visibility of 70 x 5  1 mark for their “70” x 5 with a correct calculation |
| **5a** | 9 mins | 3 | Accept without “mins”  1 mark : 5+10+4+16+8+5+10+17+6+9 = 90  1 mark : 90 ÷ 10  1 mark : = 9  Correct answer with no working out = 1 mark  1 mark for correct calculation of their “90 “ ÷ 10 |
| **5b** | Above | 1 | Accept greater than, accept 9 is greater than 7, etc |
| **5c** | no | 1 | With reason. No on its own = 0 marks  Reason : 2 calls(16 & 17) are greater than 15 so no.  : 80% (8 out of 10) of calls are more than 15 |
| **6a** | Points identified as per “new” on chart to right | 2 | 1 mark : 1 point correctly shown |
| **6b** | positive | 1 | Has to say positive |
| **6c** |  | 1 | Example on chart above. No exact answer but line must be a straight line, moving upwards and running between the points  If line is not straight (dot to dot) or curved, then 0 marks |
| **6d** | 3.5 - 6 | 1 | Other answers are possible, but they need to show how they worked it out , i.e. line going vertically up from 5, touching line of best fit and then running horizontally to read off weight loss scale) |
| **7a** | £156 | 2 | 1 mark : calculate 10% (520 ÷ 10) = 52  2nd mark : calculation of 52 x 3 = 156  Correct answer only scores 1 mark |
| **7b** | £176.40 | 3 | 1 mark : identify 10% = 84 or 20% = 168  1 mark : identify 1% = 8.4  1 mark : 21% = 168 + 8.4 = 176.40  1 mark if incorrect answer but adding their “20% + 1%” |
| **8a** | 220 | 1 |  |
| **8b** | 8200 | 1 |  |
| **8c** | 3.5 | 1 |  |
| **9a** |  | 1 | Beer Spirits  9 |
| **9b** | 88 | 1 |  |
| **9c** | 25/88 | 1 |  |
| **10a** | 22 | 1 | Put numbers in order  18 20 22 23 27 |
| **10b** | 9 | 2 | 1 mark : 27 – 18 =  1 mark for correct answer only |
| **10c** | 22 | 3 | 1 mark : 18 + 20 + 22 + 23 + 27 = 110  1 mark : 110 ÷ 5  1 mark = 22  1 mark for their “110” ÷ 5 as a correct calculation |
| **11** | 11:05 a.m. | 2 | Accept 11:05, 5 past 11  1 mark : convert 1 hour and 50 minutes into 110 minutes or  1 mark : Attempt to chunk the calculation, e.g. 9:15 + 1 hour =  10: 15; 10:15 + 50 minutes = |
| **12a** | 72:48 | 3 | 1 mark : 3 + 2 =5, or 2 hours = 120 minutes  1 mark : 120 ÷ 5 = 24  1 mark : 24 x 3 = 72; 24 x 2 = 48  1 mark for their “120 ÷ 5” correctly multiplied by 2 and 3 |
| **12b** | 45 | 3 | 1 mark : C D  3 : 1  1 mark : 15 x 3  1 mark : 45 |
| **13** | £88 | 3 | 1 mark : 10% =11  1 mark : 20 % = 2 x 11 = 22  1 mark : 110 – 22 |
| **14** |  | 3 | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AGE | WALKING | GYM | YOGA | TOTAL | | 65 - 75 | 32 | 14 | **18** | **64** | | 76+ | **12** | 0 | 24 | **36** | | TOTAL | 44 | **14** | **42** | 100 | |
|  |  |  |  |
| **14b** | 11/25 | 2 | 1 mark : 44/100 or 0.44 or 44% |
| **14c** | 6/25 | 2 | 1 mark : 24/100 or 0.24 or 24% |
| **15a** | 1 hour, 40 minutes | 2 | 1 mark :2 x 40 = 80. 80 + 20 = 100 |
| **15b** | 2 hours, 20 minutes | 2 | 1 mark : 40 x 3 = 120. 120 + 20 = 140 |
| **16a** | 0.4 | 1 |  |
| **16b** | 23% | 1 |  |
| **16c** | 6/25 | 2 | 1 mark : 24/100 |
| **17a** | £5.50 or 550p | 2 | 1 mark : 70 x 5 = 350  1 mark out of 2 if candidate doesn’t include £ or p in answer |
| **17b** | £9.70 or 970p | 2 | 1 mark : 11 x 7 = 77  1 mark out of 2 if candidate doesn’t include £ or p in answer |
| **17c** | 7 miles | 2 | 1 mark : 6.90 – 2= 4.90. 4.90 ÷ 7 |
| **18a** | £417.05 | 4 | 1 mark : 9.50 x 40 = 380  1 mark : 10% = 0.95 so £30 % = 3 x 0.95 = 2.85  1 mark : 9.5 + 2.85 = 12.35. 12.35 x 3 = 37.05  1 mark : 380 + 37.05  Alternative method  1 mark : 9.5 x 43 = 408.5  1 mark : 3 x 0.95 = 2.85  1mark : 3x 2.85 = 8.55  1 mark : 08.5 = 8.55 =  2 method marks if method correct, but 1 calculation error made |
| **18b** | £238 | 4 | 1 mark : tax. 10% = 35, so 20% = 70  1 mark : NI.10% =35, 1% = 3.50, 2% = 7, so 12% = 35 + 7 = 42  1 mark : 70 + 42 = 112  1 mark : 350 – 112  If incorrect answer, 1 mark for their “70” + “42” |
| **19a** | Glasgow | 1 | Do not accept -3C |
| **19b** | 4C | 1 |  |
| **19c** | 8C | 1 | 5 - -3 |
| **20a** | £135 | 3 | 1 mark : Menu A : 15 x 4 = 60  1 mark : Menu B = 15 x 5 = 75  1 mark : 60 + 75 = 135  Alternative calculation :  15 x 9 = 135 |
| **20b** | £115 | 3 | 1 mark : Menu A : 25 – 15 = 10. 10 x 4 = 40  1 mark : Menu B : 30 – 15 = 15. 15 x 5 = 75  1 mark : 40 + 75 = 115 |
| **21** | Shop A, with calculations | 5 | 1 mark : 24 ÷ 6 = 4 packs  Shop A:  1 mark : 4 packs = 2.40 x 4 = £9.60  1 mark : 10% = 0.96, 30% = 2.88  9.60 – 2.88 = £6.72  Alternative calculation.  1 mark : 10% of 2.40 = 0.24. 30% = 0.24 x3 = 0.72  2.40 – 0.72 = 1.68.  1 mark : 1.68 x 4 = £6.72  Shop B:  1 mark : 2.40 x 3 = 7.20  1 mark : Shop A |
|  |  |  |  |