# Qualified Teacher Status (QTS) – Mental Arithmetic practice test Answers

1. 2:3

Step 1 – Put the totals for each gender into a ratio

10:15

Step 2 – Simplify the ratio by dividing by the lowest common denominator

Lowest common denominator = 5

10/5 : 15/5

This ratio simplifies to 2:3

1. £49.95

Calculate 90% of £55.50

£55.50 x 90/100 = £49.95

1. 09:15 hrs

Step 1 – Calculate the total length of the 3 classes

65 x 3 = 195 minutes

Step 2 – Calculate this in hours

195/60 = 3 hours and 15 mins

Step 3 – Work backwards by deducting 3 hours and 15 mins from 12:30

1230 hrs - 3 hours and 15 mins = 0915 hrs

1. 15 minutes

Apply the equation *Speed = Distance/Time*

5km/h = 1.25km/time

Time = 1.25/5= ¼ of an hour

¼ of an hour = 15 minutes

1. 9

Step 1 – Calculate the sum of the scores

6 + 8 + 9+ 10 + 12 + 10 + 8 = 63

Step 2 – Calculate the mean by dividing this sum by the number of pupil scores

63/7 = 9

1. 7.2 Euros

Apply the exchange rate

6 x 1.2 = 7.2 Euros

1. 8 boys, 12 girls

Step 1 – Calculate how many girls

20 x 3/5 = 12 girls

Step 2 – Calculate how many boys

20 – 12 = 8 boys

1. £44.97

Calculate the cost for 3 sets of trousers

£14.99 x 3 = £44.97

1. 1505 hrs

Add on 40 minutes to 1425 hrs

1425 hrs + 40 minutes = 1465 hrs

However…

…a new hour starts after 60 minutes. Thus the delayed time is 1505 hrs

1. 15

Calculate the middle “median” value by putting the scores in order

5, 9, 11, 14, 15, 16, 17, 18, 20

The middle score when there are 9 scores is the 5th score i.e. 15

1. £157.50

Step 1 – Calculate the cost per pupil

5p x 50 = £2.50

Step 2 – Multiply the cost per pupil by the number of pupils

£2.50 x 63 = £157.50

1. 64%

100 x 16/25 = 64%

1. 1/12
2. £2.25

Step 1 – Calculate the total cost

(75 x 5) + (50 x 8) = 775p = £7.75

Step 2 – Deduct the total cost from £10.00

£10.00 - £7.75 = £2.25

1. 160
2. 11.25 litres

Calculate the total distance travelled

45 miles x 2 = 90 miles

Step 2 – Calculate how much petrol is used over 90 miles

90/8 = 11.25 litres

1. 60%

Step 1 – Calculate the number of pupils that got 15 or above

6 pupils (with scores of 15, 16, 20, 19, 18,15)

Step 2 – Calculate the percentage of the total number of pupils

Total number of pupils = 10

100 x 6/10 = 60%

1. 0.45
2. 1615 hrs
3. 21

84 x 25/100 = 21

1. 12.5%

100 x 1/8 = 12.5%

1. 2/13

20/130 = 2/13

1. £191.25

Step 1 – Calculate the total amount spent per pupil

£9.50 + £3.25 = £12.75

Step 2 – Multiply by 15 (pupils)

15 x £12.75 = £191.25

1. £20.80

Step 1 – Sum the total amount spent

5 + 7 + 14 = 26

Step 2 - Apply the exchange rate

26/1.25 = £20.80

1. 2/5

Step 1 – Calculate the number of girls

30 – 12 = 18

Step 2 – Calculate this as a fraction

18/30 = 3/5

1. £40.50

Step 1 – Sum the total costs per child

£5.50 + £12.75 + £2.00 = £20.25

Multiply by 2 for the two siblings

£20.25 x 2 = £40.50

27) 1345 hrs

90 minutes (1 hour and 30 minutes) before 1515 hrs is 1345 hrs

28) 0.9 miles

1 km : 0.6 mile

1.5 x 0.6 = 0.9 miles

29) 17.5

Step 1 – Calculate the total

14 + 16 + 18 + 19 + 20 + 15 + 20 + 18 =140

Step 2 - Mean (the average) = Total/number of scores

140 /8 = 17.5

30) £40.50

(30 x 35p) + (40 x 50p) + (50 x 20p) = £10.50 + £20.00 + £10.00 = £40.50

31) 3.6

32) 12

30/100 x 40 = 12

33) 20%

34) 23

115 x 20/100 = 23

35) £12.50

£2.50 x 5 = £12.50

36) 1345 hrs

37) 25

Calculate the middle “median” value by putting the scores in order

15, 19, 21, 24, 25, 26, 27, 28, 30

The middle score when there are 9 scores is the 5th score i.e. 25

38) 83.3%

5/6 x 100 = 83.3%

39) 1/4

40) 30%

100 x £615.30/£2,051.00 = 30%

41) 1230 hrs

42) £24.75

9 x £2.75 = £24.75

43) £106.78

£24.33 + £19.90 + £15.75 + £46.80 = £106.78

44) 272

45) 81%

90 x 9/10 = 81%

46) 4 metres squared

47) 25%

48) 1245 hrs

Step 1 – Calculate the time taken

17 x 5 minutes = 85 minutes

Step 2 – Add 85 minutes to 1120 hrs

85 minutes = 1 hour 25 minutes, so the new time is 12:45 hrs

49) 21

50) 1.62