



JP Maths

Revision



Attempt the paper
before watching the
solutions!

[https://www.youtube.com/
@JPMathsRevision](https://www.youtube.com/@JPMathsRevision)



FOUNDATION / HIGHER TIER

Combined Mean



INSTRUCTIONS

- Use **black ink** or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.



INFORMATION

- The marks for **each** question are shown in brackets– *use this as a guide as to how much time to spend on each question.*



ADVICE

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.



You've got this!

1. The mean of 5 numbers is 14.

A sixth number is added.

The new mean becomes 15.

Find the sixth number.

$$14 \times 5 = 70$$

$$15 \times 6 = 90$$

$$90 - 70 = 20$$

20

.....
(Total for Question 1 is 3 marks)

2. The mean of 10 numbers is 18.

One number is removed and the mean becomes 17.

Find the number that was removed.

$$18 \times 10 = 180$$

$$17 \times 9 = 153$$

$$180 - 153 = 27$$

27

.....
(Total for Question 2 is 3 marks)

3. A class of 12 students has a mean score of 18.

Another class of 8 students has a mean score of 15.

Find the mean score of all 20 students.

$$18 \times 12 = 216$$

$$15 \times 8 = 120$$

$$216 + 120 = 336$$

$$336 \div 20 = 16.8$$

16.8

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

4. A football team scored an average of 3 goals per game over 5 games.

In the next 3 games, they scored an average of 2 goals per game.

Find the overall mean number of goals scored per game in all 8 games.

$$3 \times 5 = 15$$

$$3 \times 2 = 6$$

$$15 + 6 = 21$$

$$21 \div 8 = 2.625$$

2.6

.....
(Total for Question 4 is 3 marks)

5. A group of 9 students has a mean height of 148 cm

Another group of 11 students has a mean height of 152 cm.

Find the mean height of all 20 students.

$$\begin{array}{r} 148 \times 9 = 1332 \\ 11 \times 152 = 1672 \\ \hline 3004 \end{array}$$

$$3004 \div 20 = 150.2$$

..... 150.2 cm

(Total for Question 5 is 3 marks)

6. In one week, a shop served an average of 45 customers per day for 5 days.

Over the weekend, the shop served an average of 70 customers per day for 2 days.

Find the mean number of customers per day over the whole week.

$$45 \times 5 = 225$$

$$70 \times 2 = 140$$

$$225 + 140 = 365$$

$$365 \div 7 = 52.1$$

..... 52.1

(Total for Question 6 is 3 marks)

7. In a class, there are 12 girls and 18 boys.

The mean score of the whole class is 68.

The mean score of the girls is 74.

Find the mean score of the boys.

$$30 \times 68 = 2040$$

$$12 \times 74 = 888$$

$$2040 - 888 = 1152$$

$$1152 \div 18 = 64$$

64

.....
(Total for Question 7 is 3 marks)

8. A group of students contains 15 boys and 10 girls.

The mean height of the whole group is 156 cm.

The mean height of the boys is 160 cm.

Find the mean height of the girls.

$$25 \times 156 = 3900$$

$$15 \times 160 = 2400$$

$$3900 - 2400 = 1500$$

$$1500 \div 10 = 150$$

150 cm

.....
(Total for Question 8 is 3 marks)
