



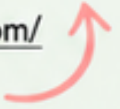
JP Maths

Revision



Attempt the paper
before watching the
solutions!

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



FOUNDATION / HIGHER TIER

Ratio



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. A bag contains 8 red counters and 12 blue counters.

Write down the ratio of red counters to blue counters.

Give your answer in its simplest form.

.....
(Total for Question 1 is 2 marks)

2. A fruit bowl contains 6 apples, 9 bananas and 15 oranges.

Write the ratio of apples : bananas : oranges

Give your answer in its simplest form.

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

3. A class contains 18 boys and 24 girls.

Write the ratio of boys to girls in its simplest form.

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

4. A recipe uses 300 g flour, 180 g butter and 120 g sugar.

Write the ratio flour : butter : sugar

Give your answer in its simplest form.

.....
(Total for Question 4 is 2 marks)

5. A bottle contains 1.5 litres of orange juice and 900 ml of apple juice.

Write the ratio of orange juice to apple juice in its simplest form.

.....
(Total for Question 5 is 2 marks)

6. A ribbon is cut into lengths of 80 cm and 1.2 m.

Write the ratio of the two lengths in its simplest form.

.....
(Total for Question 6 is 2 marks)

7. A recipe uses $\frac{3}{4}$ of a litre of milk and $\frac{1}{2}$ a litre of cream.

Write the ratio of milk to cream in its simplest form.

.....
(Total for Question 7 is 2 marks)

8. A class contains 12 girls and 18 boys.

a) Write the ratio of girls to boys in its simplest form.

b) What fraction of the class are girls?

.....
(1)

c) What percentage of the class are boys?

.....
(1)

.....
(1)

(Total for Question 8 is 3 marks)

9. The ratio of cats to dogs at an animal rescue centre is 3 : 5.

a) What fraction of the animals are cats?

.....
(1)

b) What percentage of the animals are dogs?

.....
(1)

(Total for Question 9 is 2 marks)

10. Emily and Jack share £42 in the ratio 2 : 5.

Work out how much each person receives.

.....
(Total for Question 10 is 2 marks)

- 11.** Three friends share 90 sweets in the ratio 2 : 3 : 4.

Work out how many sweets each friend receives.

.....
(Total for Question 11 is 2 marks)

- 12.** A farmer shares 144 kg of animal feed between sheep and goats in the ratio 5 : 3.

Work out how much feed the goats receive.

.....
(Total for Question 12 is 2 marks)

- 13.** A school buys 180 exercise books for Year 10 and Year 11.

The books are shared between year 10 and 11 in the ratio 4 : 5.

How many books does each year group receive?

.....
(Total for Question 13 is 2 marks)

14. A charity receives £1800 in donations.

The money is shared between three community projects in the ratio 6 : 5 : 4.

Work out how much each project receives.

.....
(Total for Question 14 is 2 marks)

15. A fruit smoothie is made by mixing strawberries and bananas in the ratio 5 : 3.

Tom uses 20 strawberries.

How many bananas does he need?

.....
(Total for Question 15 is 2 marks)

16. The ratio of boys to girls in a class is 4 : 5.

There are 24 boys.

How many girls are there?

.....
(Total for Question 16 is 2 marks)

- 17.** Blue paint and white paint are mixed in the ratio 7 : 2.

An artist uses 56 litres of blue paint.

How much white paint does she need?

.....
(Total for Question 17 is 2 marks)

- 18.** The ratio of cats to dogs at an animal rescue centre is 9 : 5.

There are 45 dogs.

How many cats are there?

.....
(Total for Question 18 is 2 marks)

- 19.** The ratio of length to width of a rectangle is 8 : 5.

The width is 30 cm.

Find the length.

.....
(Total for Question 19 is 2 marks)

- 20.** $A : B = 2 : 5$
 $B : C = 5 : 7$
Find $A : B : C$.

.....
(Total for Question 20 is 2 marks)

- 21.** $A : B = 4 : 3$
 $B : C = 6 : 5$
Find $A : B : C$.

.....
(Total for Question 21 is 2 marks)

- 22.** $\text{Red} : \text{Blue} = 5 : 4$
 $\text{Blue} : \text{Green} = 6 : 7$
Find $\text{Red} : \text{Blue} : \text{Green}$.

.....
(Total for Question 22 is 2 marks)

23. Boys : Girls = 5 : 6

Girls : Teachers = 9 : 2

Find Boys : Girls : Teachers.

.....
(Total for Question 23 is 2 marks)

24. A wildlife reserve has deer and foxes in the ratio 5 : 3.

There are 144 animals altogether.

Work out how many deer there are.

.....
(Total for Question 24 is 2 marks)

25. A company produces silver and gold medals in the ratio 7 : 4.

There are 36 more silver medals than gold medals.

How many medals are produced altogether?

.....
(Total for Question 25 is 2 marks)

26. A camping shop sells adult and children's sleeping bags.

The ratio of adult sleeping bags sold to children's sleeping bags sold is 9 : 5.

The shop sells 99 adult sleeping bags.

How many children's sleeping bags are sold?

.....
(Total for Question 26 is 2 marks)

27. A model railway is built using straight track and curved track in the ratio 8 : 3.

The layout contains 77 pieces of track altogether.

How many curved pieces are used?

.....
(Total for Question 27 is 2 marks)

28. A bird feeder contains only sunflower seeds and peanuts.

The ratio of sunflower seeds to peanuts is 11 : 6.

There are 45 more sunflower seeds than peanuts.

How many seeds are there altogether?

.....
(Total for Question 28 is 2 marks)

29. A farmer mixes grass seed, wildflower seed and fertiliser in the ratio 6 : 2 : 1.

He has

- 960 g grass seed
- 250 g wildflower seed
- 180 g fertiliser

What is the greatest amount of mixture he can make?

.....
(Total for Question 29 is 3 marks)

30. Daniel receives £200 birthday money.

He saves 35% of it.

He spends the rest.

The ratio of the amount spent on clothes to the amount spent on everything else is 3 : 5.

Work out how much Daniel spends on clothes.

.....
(Total for Question 30 is 3 marks)

31.

A warehouse stores small, medium and large boxes.

There are 480 boxes altogether.

25% are small.

40% are medium.

The rest are large.

Work out the ratio of medium boxes to large boxes.

Give your answer in its simplest form

.....
(Total for Question 31 is 3 marks)

32.

A garden centre sells small and large bags of compost.

A small bag contains 25 litres.

A large bag contains 60 litres.

The ratio of the number of small bags sold to the number of large bags sold is 7 : 4.

A total of 2,075 litres of compost is sold.

Work out how many small bags were sold.

.....
(Total for Question 32 is 4 marks)

33. A football academy has only Under 15 and Under 16 players.

The ratio of Under 15 players to Under 16 players is 8 : 11.

Twenty-two Under 16 players leave.

The ratio is now 8 : 9.

Work out how many players were originally at the academy.

.....
(Total for Question 33 is 4 marks)

34. Three cyclists, Ethan, Lucas and Mia, win a cash prize of £5250.

The ratio of the amount Ethan receives to the amount Lucas receives is 6 : 5.

Mia receives twice as much as Lucas.

Work out how much Lucas receives.

.....
(Total for Question 34 is 3 marks)

- 35.** A charity collection contains only £2 coins and 50p coins.

The ratio of the number of £2 coins to the number of 50p coins is 4 : 7.

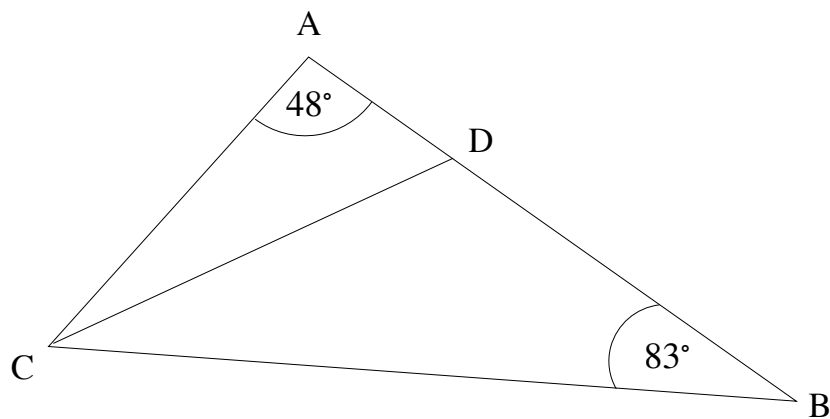
The total value of the coins is £92.

Work out how many £2 coins there are.

.....
(Total for Question 35 is 4 marks)

- 36.** Triangle ABC is shown below.

D lies on AB.



$$\angle ACD : \angle BCD = 4 : 3$$

Work out the size of $\angle ADC$.

.....
(Total for Question 36 is 4 marks)
