

Paper 3 Preparation Paper

AQA Foundation



Corbettmaths

You will need a calculator

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this test

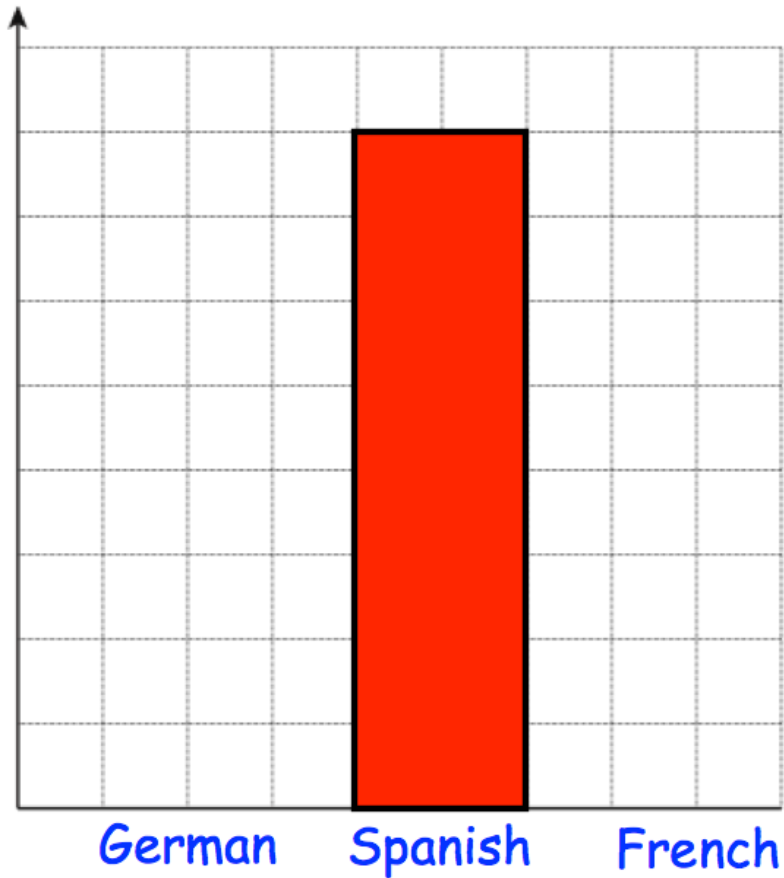
www.corbettmaths.com/contents



1. BAR CHARTS (video 147, 148)

Miss Jackson asked the 32 students in her tutor group which language they study.

Each student studies one language only.



Half of the students in the tutor group study Spanish.
Six more students study German than French.

Complete the bar chart.

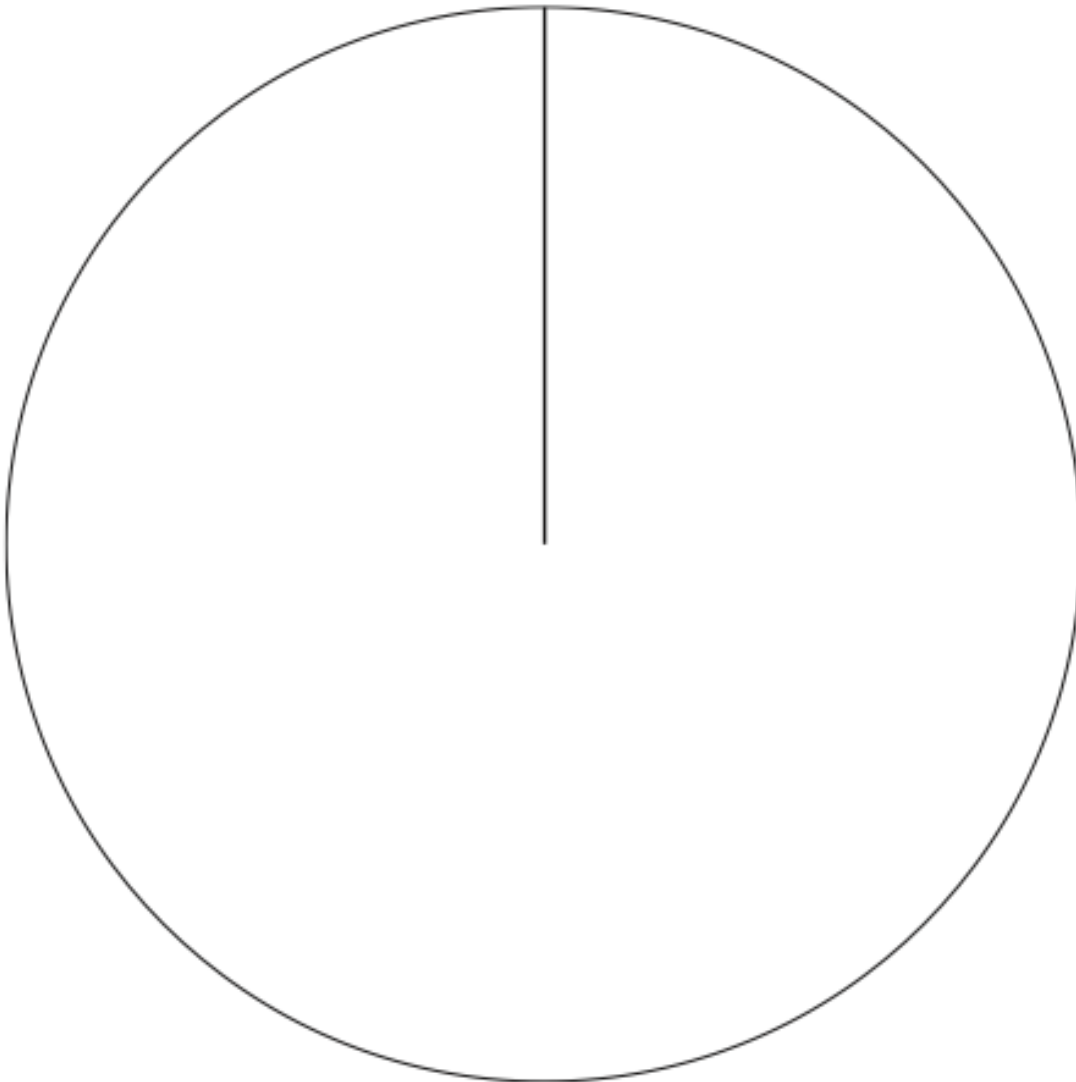
(4)

2. PIE CHARTS (video 163, 164)

The table gives information about the meals ordered on a Sunday.

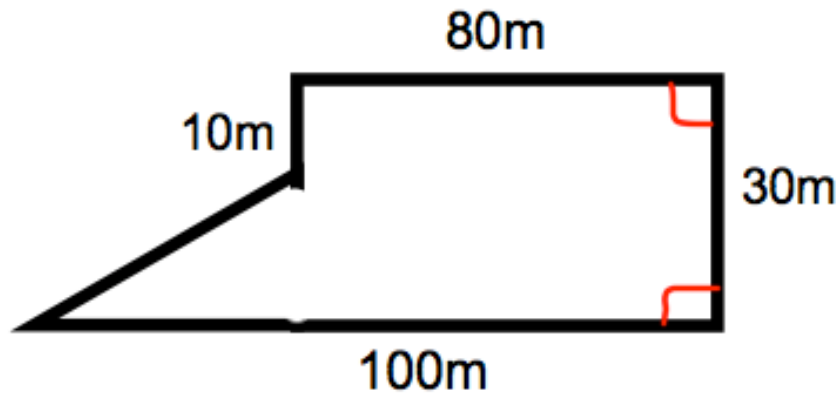
Meal	Frequency
Chicken	14
Beef	9
Pork	57
Vegetarian	10

Draw an accurate pie chart to show this information.



3. AREA OF A TRIANGLE (video 49)

The diagram below shows a farmer's field.



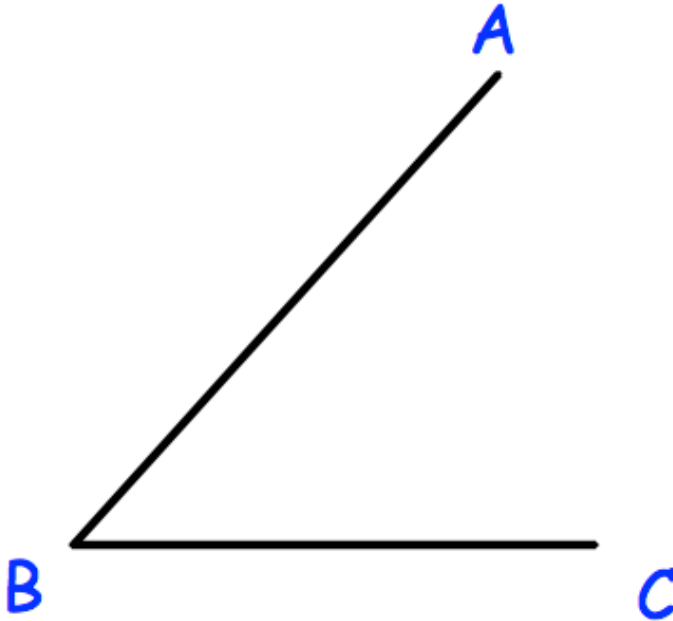
The farmer wants to plant a new crop.
Each sack of seed covers 30m^2 .
The cost of each sack is £6.

Work out the cost to buy enough seed to cover the field.

£.....
(5)

4. CONSTRUCTIONS (videos 72, 78, 83)

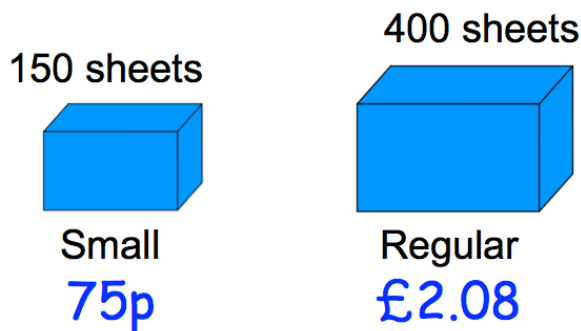
Using ruler and compasses, construct the bisector of angle ABC.



(2)

5. BEST BUYS (video 210)

There are two different packets of the same type of paper in a shop.



Which of the two packets gives the better value for money?
You must show your working.

(4)

6. FRACTIONS OF AMOUNTS (video 137)

When a bouncy ball is dropped it will rise to $\frac{4}{5}$ of the height it dropped from.

A ball is dropped from a height of 5 metres and is allowed to bounce repeatedly.

Which is the least number of bounces until its rebound height is less than 2 metres?

Show your working.

.....bounces
(3)

7. COMPOUND INTEREST (video 236)

A car was bought for £18000.

Its value depreciated by 15% each year for the first three years.

What was its value at the end of the three years?

£.....
(3)

8. ROUNDING (videos 276, 277a, 277b, 278)



Holly works out the answer to $135.66 + 193.88$ on a calculator.

Her answer is shown on the calculator.

(a) Round her answer to the nearest 10.

.....
(1)

(b) Round her answer to the nearest 100.

.....
(1)

(c) Round her answer to the nearest integer.

.....
(1)

(d) Round her answer to one decimal place.

.....
(1)

9. TWO-WAY TABLES (video 319)

100 people study one language at a college.

Some people study French.

Some people study Spanish.

The rest of the people study German.

54 of the people are male.

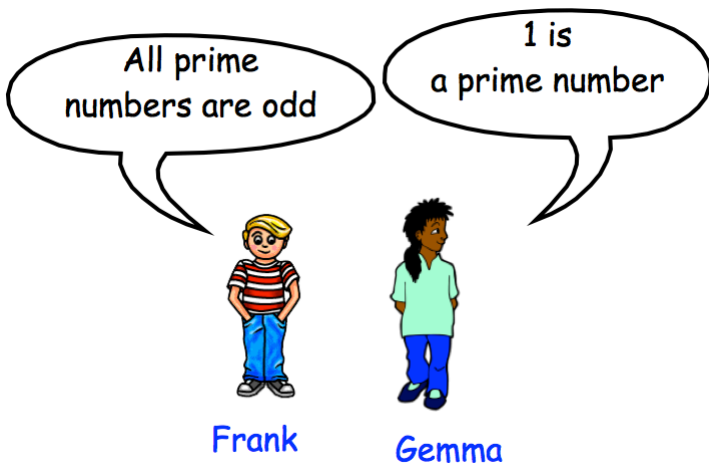
20 of the 29 people who study Spanish are female.

31 people study German.

15 females study French.

Work out the number of males who study German.

10. PRIME NUMBERS (video 225)



Give a reason why each child is wrong.

Frank:

.....

Gemma:

.....

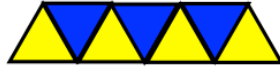
(2)

11. SEQUENCES (videos 286, 287, 290)

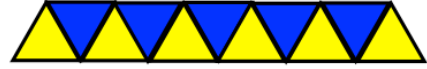
Patterns are made from yellow and blue triangles.



Pattern 1



Pattern 2



Pattern 3

(a) How many yellow triangles are there in the n th pattern?

.....
(2)

(b) How many blue triangles are there in the n th pattern?

.....
(2)

(c) How many triangles, yellow and blue, are there in the 100th pattern?

.....
(2)

12. LCM/HCF (videos 223, 224)

(a) Write 60 as a product of its prime factors.

.....
(2)

(b) Find the Lowest Common Multiple (LCM) of 60 and 75.

.....
(2)

13. FACTORISING (video 117)

Factorise $2w^2 + w$

.....
(1)

14. FACTORISING QUADRATICS (video 118, 120)

Factorise $x^2 - x - 30$

.....
(2)

15. ESTIMATED MEAN (video 55)

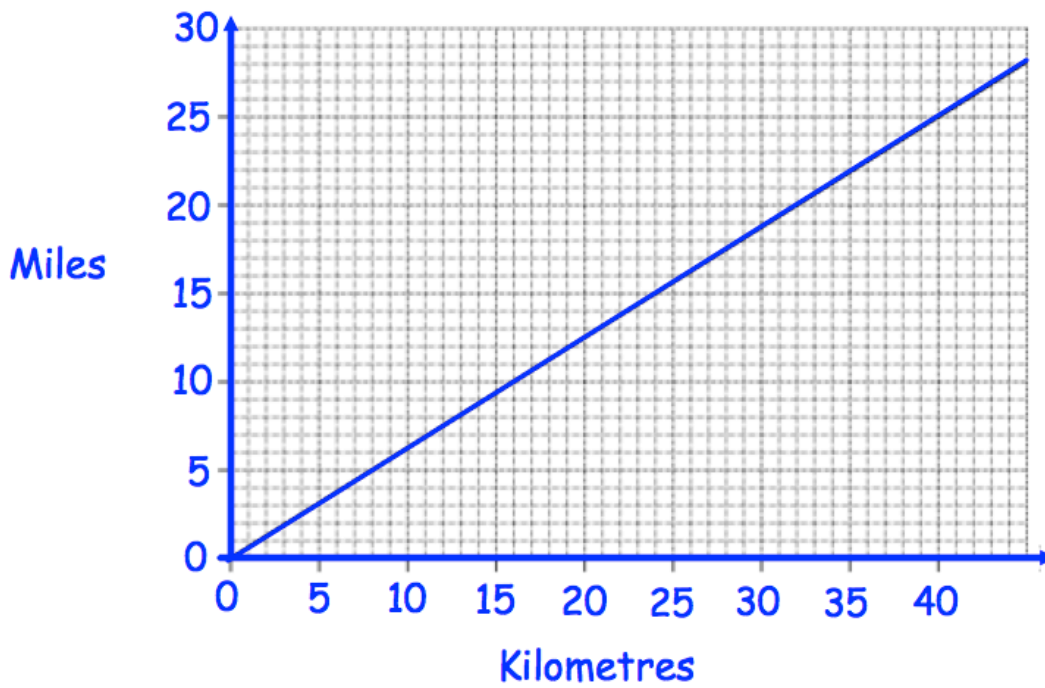
Height	Frequency
$120 < h \leq 130$	51
$130 < h \leq 140$	120
$140 < h \leq 150$	66
$150 < h \leq 160$	59
$160 < h \leq 170$	4

Work out an estimate of the mean height

.....
(3)

16. CONVERSION GRAPHS (video 151)

A conversion graph for kilometres and miles is shown.



(a) Use the graph to convert 40 kilometres to miles.

.....miles
(1)

(b) Use the graph to convert 10 miles to kilometres.

.....kilometres
(1)

(c) Convert 200 kilometres to miles.

.....miles
(2)

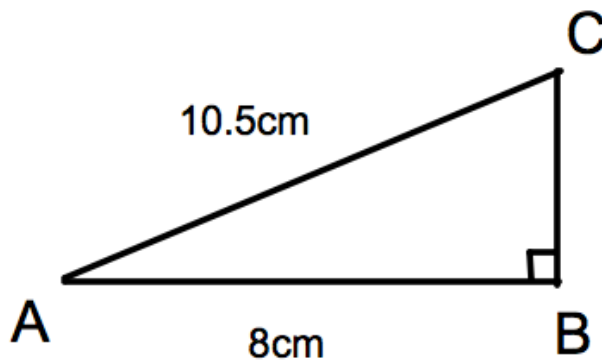
17. Express v in terms of t

$$t = \frac{v}{4} + 1$$

$v = \dots\dots\dots$
(2)

18. TRIGONOMETRY (video 329, 330, 331)

ABC is a right-angled triangle.



Calculate the size of angle ACB.

$\dots\dots\dots^{\circ}$
(3)

19. VENN DIAGRAMS (video 380)

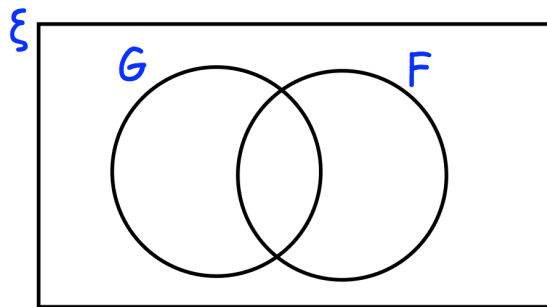
There are 80 students in year 11.

9 students study French and German.

35 students only study French

2 students do not study French or German.

(a) Complete the Venn diagram



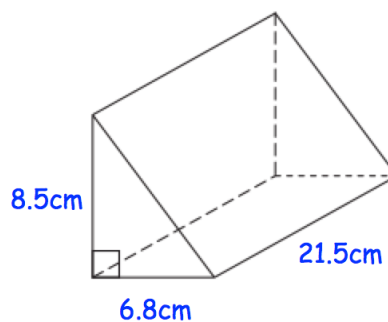
(2)

(b) Work out how many students study only German.

.....
(1)

20. VOLUME OF A PRISM (video 356)

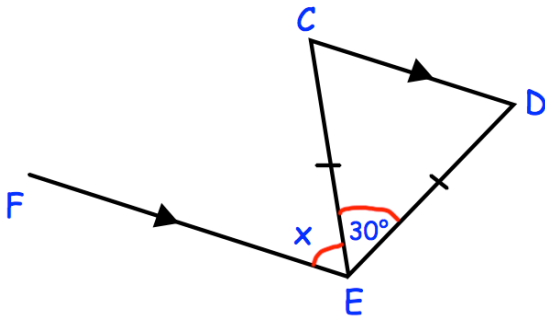
Shown below is a triangular prism.



Find the volume of the triangular prism.

.....cm³
(3)

21. ANGLES IN PARALLEL LINES (video 25)



Triangle CDE is isosceles.
CD is parallel to FE.
Angle CED = 30°

Work out the size of angle x.

.....°
(3)

22. SIMULTANEOUS EQUATIONS (Videos 295, 298)

Solve the simultaneous equations

$$4x + 3y = 5$$
$$2x - 5y = 9$$

Do not use trial and improvement

$x = \dots\dots\dots y = \dots\dots\dots$
(4)

23. REVERSE PERCENTAGES (Video 240)

A fish tank sprung a leak and loses 45% of its water.
There is now 363 litres of water in the fish tank.

How much water was in the fish tank before the leak?

.....|
(3)

24. NTH TERM - LINEAR (video 288, 289)

The first 5 terms in a number sequence are

2 2.5 3 3.5 4

(a) Work out the n th term of the sequence.

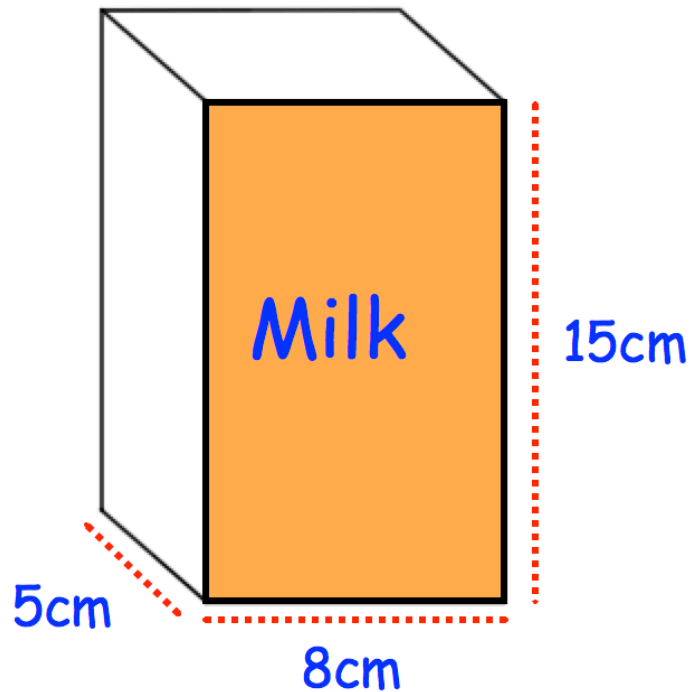
.....
(2)

(b) Work out the 20th term of the sequence.

.....
(2)

25. VOLUME OF A CUBOID (video 355)

A carton of milk is shown below.
The carton is in the shape of a cuboid.



The depth of the milk in the carton is 12cm.

The carton is turned so that it stands on the shaded (orange) face.

Work out the depth of the milk now.

.....cm
(3)

26. SPEED (video 299)

A helicopter flies 240 miles in 2 hours 30 minutes.

Calculate the average speed, in mph, of the helicopter.

.....mph
(2)

27. LOCI (videos 75, 76, 77)

A phone box is located near three houses, A, B and C.

1cm = 200m

Railway



A •

• B

•
C

The phone box is less than 500m from the railway track.
The phone box is between 300m and 500m from house A.
The phone box is closer to house C than house B.

Shade the region on the map where the phone box could be located.

(5)

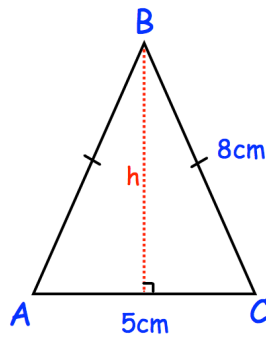
28. DENSITY (video 384)

Iron has a density of 7.8g/cm^3 .
A solid iron statue has a mass of 487.5g .
Work out the volume of the statue.

..... cm^3
(2)

29. PYTHAGORAS (Video 257)

ABC is an isosceles triangle.
 $AB = BC = 8\text{cm}$
 $AC = 5\text{cm}$



Calculate the height of the triangle.

.....cm
(3)

30. VECTORS (Video 353a)

Given $\mathbf{a} = \begin{pmatrix} 6 \\ -4 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} -2 \\ 1 \end{pmatrix}$

Work out $2\mathbf{a} + \mathbf{b}$

.....
(3)