



DULWICH COLLEGE

SPECIMEN

ENTRANCE AND SCHOLARSHIP EXAMINATION PAPERS

FOR ENTRY AT AGES 11+ and 12+

MATHEMATICS
(one hour)
WORK OUT THE FOLLOWING
(Show all your working)

1. $911 + 91 + 9$

Answer: _____

[3]

7. Fill in the missing numbers:

$$\frac{15}{3} = \frac{1}{12}$$

[2]

2. $53.4 - 2.5$

Answer: _____

[3]

8. Write the following amounts in size order, starting with the smallest.

0.55 58% $\frac{13}{25}$

Answer: _____

[3]

3. 25×71

Answer: _____

[3]

9. A drink and a box of popcorn together cost 90p. Two drinks and a box of popcorn together cost £1.45. What does a box of popcorn cost?

Answer: _____

[3]

4. $86.1 + 7$

Answer: _____

[3]

10. On a bus, the ratio of men to women is 5 : 4. If there are 12 women on the bus, how many men are on the bus?

Answer: _____

[3]

5. 0.04×1000

Answer: _____

[2]

11. Fill in the missing digit so that there is no remainder when the following number is divided by 6:

281 —

[2]

6. $\frac{2}{3} + \frac{1}{5}$

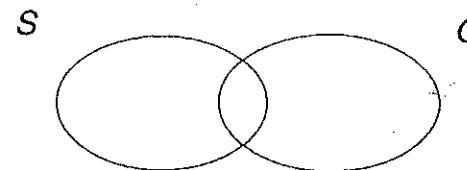
Answer: _____

[3]

12. If $S = \{\text{square numbers}\}$ and $O = \{\text{odd numbers}\}$, put each of the numbers 1, 2, 3, 4, 5 and 6 into the correct space on the Venn diagram:

continues

12. *continued*



[4]

13. My age is a multiple of 7. Next year it will be a multiple of 5. I am more than 20 years old, but less than 80. How old am I?

Answer: _____

[2]

14. A girl is 5 years older than her brother. If the sum of their ages is 17, how old are they?

Answer: _____

[3]

15. The 15.17 train from Liverpool arrives at London (Euston) at 18.02.

(a) How long does the journey take?

Answer: _____

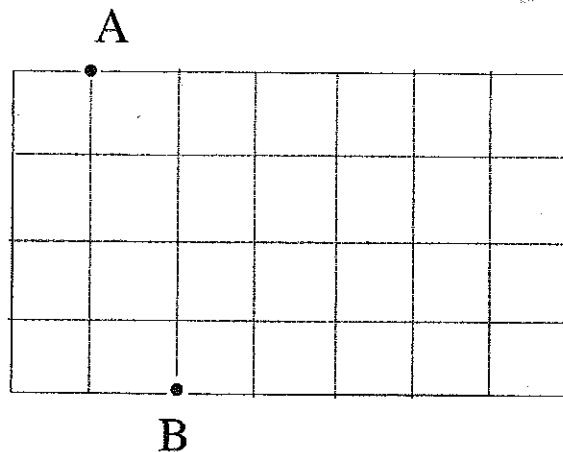
[2]

(b) If the average speed of the train is 80 miles per hour, find the distance between London and Liverpool.

Answer: _____

[3]

16. By following the dotted lines, find a path joining A and B which divides the rectangle into 2 pieces of equal area



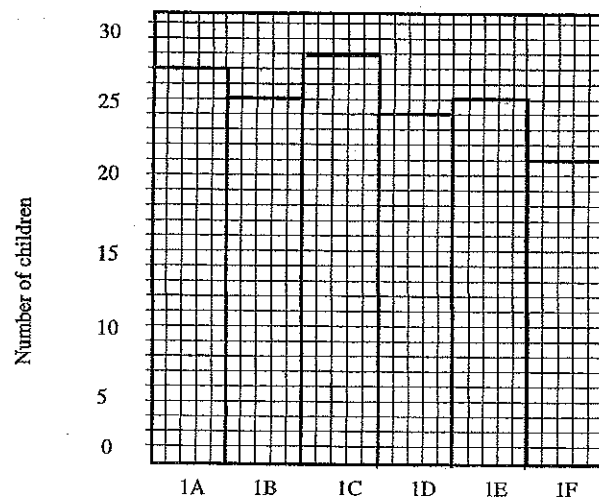
[2]

17. Using each of the digits 2, 4 and 9, find two three-digit numbers which have both 2 and 7 as factors.

Answer: _____

[4]

18. The graph shows the numbers of children in each of the first forms of a school.



(Continued)

18 continued

- (a) Which two forms have the same size?

Answer: _____

[2]

- (b) Which form is largest?

Answer: _____

[1]

- (c) How many more children are there in the largest form than in the smallest?

Answer: _____

[2]

- (d) How many first-formers are there in total?

Answer: _____

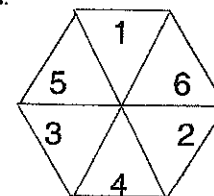
[2]

- (e) What is the average form size?

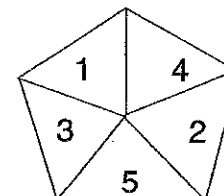
Answer: _____

[3]

19. Here are two spinners:



Jill's Spinner



Peter's Spinner

- (a) Find the probability (chance) of Peter spinning a three.

Answer: _____

[2]

- (b) Who is more likely to spin an even number?

Answer: _____

[2]

20. Last week, at a seaside resort, there was an average of 3 hours of sunshine per day for the six days Monday to Saturday. On the Sunday, there were 10 hours of sunshine. What was the average amount of sunshine per day for the whole week?

Answer: _____

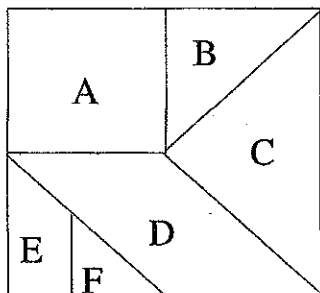
[4]

21. A piece of wire 30 cm long is bent into the shape of a rectangle. If the rectangle is twice as long as it is wide, what is its area?

Answer _____

[4]

22. This 4 cm square has been cut into 6 pieces: A, B, C, D, E and F. A is a square of side 2 cm. D is a parallelogram.



- (a) Calculate the perimeter of piece A.

Answer _____

[1]

- (b) What sort of triangle is piece B?

Answer _____

[2]

- (c) Which two pieces fit together to make a trapezium?

Answer _____

[1]

- (d) What is the area of piece C?

Answer _____

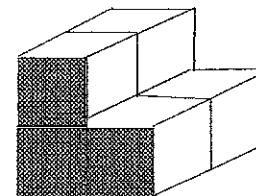
[2]

- (e) What fraction of the total area is the area of piece D?

Answer _____

[3]

23. The diagram below shows some steps made out of equal cubes. The shaded area of the L-shaped end of the figure is 108 square inches.



- (a) What is the length of a side of one of the cubes?

Answer _____

[2]

- (b) What is the volume of the figure?

Answer _____

[3]

24. Mary's telephone number is made up of 6 digits. The first digit is 1 and the last is 8. It is also known that the sum of any three consecutive digits in it is 12. What is Mary's telephone number?

Answer _____

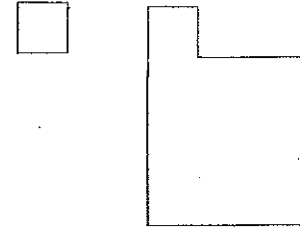
[3]

25. Two farmers were taking cows to a market. One said to the other, If you give me one of your cows we shall have the same number. The other farmer replied, If you give me one of yours, I shall have twice as many as you. How many cows did each have?

Answer _____

[4]

26. Fit these two pieces together to make all the possible shapes that have one line of symmetry.



Draw your answers in the space below.

[4]

IF YOU HAVE TIME, GO BACK AND CHECK YOUR WORK