FOR OCR

Solomon Press Specimen Papers

GCSE Mathematics

Paper 1C (Non-Calculator)

Foundation Tier

Time: 2 hours

Materials required
Question Paper
Worksheet
Ruler, protractor, compasses.
Tracing paper may be used

Instructions to candidates

Do not write on this paper. Write all answers on plain paper except where instructed to answer on your worksheet. *In an examination you will normally be required to write your answers in the spaces provided in the question paper.*

Information to candidates

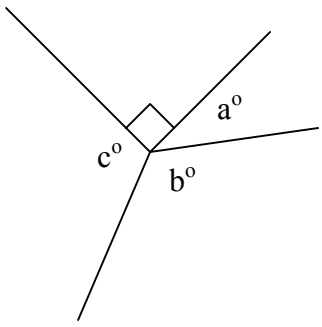
The marks for questions and parts of questions are shown in brackets e.g. **(3)**.
This paper contains 24 questions and the total of the marks available is 100.
Calculators must not be used.

1. (a) List the following in order of size, starting with the smallest

$\frac{1}{3}$ 0.3 33% 32% (3)

(b) Work out

27 – 9 + 6 – 4 (2)

2. 

Given that angle $b = c = 110^o$

(a) Find angle a. (1)

(b) Name an angle on the diagram that is

(i) Acute (1)

(ii) Obtuse (1)

3. (a) Simplify the ratio 32 : 12 (2)

To create the correct colour paint Mick mixes blue and green in the ratio 4:3

He has 9 litres of green paint.

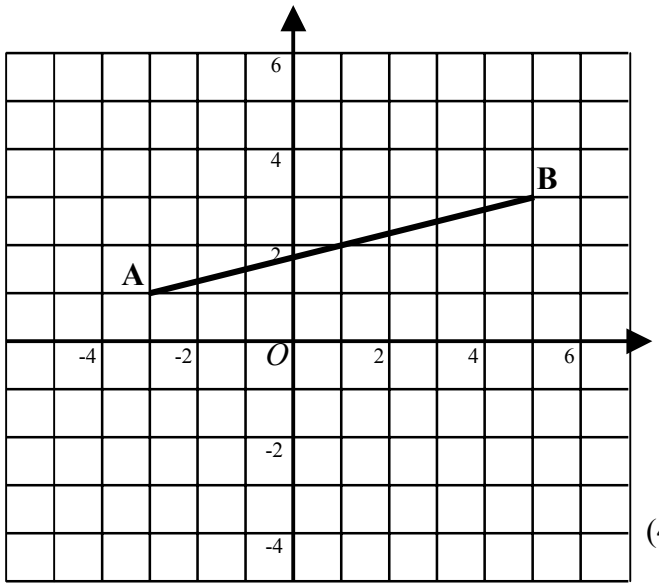
(b) How much blue paint should he mix with it? (2)

4. (a) State the co-ordinates of

(i) A

(ii) B

(b) State the co-ordinates of the mid-point of AB.

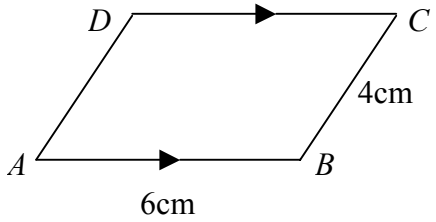


(4)

5. A bicycle shop is having a sale with 30% off everything.

Work out the sale price of a bicycle originally costing £380. (3)

6. In the diagram AB is parallel to DC and AD is parallel to BC
$AB = 6$ cm and $BC = 4$ cm



(a) What type of quadrilateral is $ABCD$? (1)
If angle $DAB = 60^o$
(b) Find angle ABC (1)

7. Solve each of the following equations
(a) $8x + 3 = 5x + 9$ (3)
(b) $\frac{a}{4} = 9$ (2)
(c) $2(x - 3) = 7$ (3)

8. The table shows the results of a survey on how a class of children travel to school.

Walk	Car	Bus	Cycle
9	4	12	5

Accurately construct a pie chart stating the size of each angle to show these results. (5)

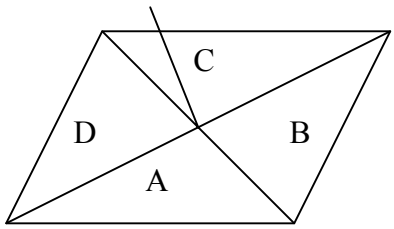
9. Eleven boys took a Maths test and their marks were
2 3 4 2 5 8 3 8 3 7 9
(a) Write down the range of these marks. (1)
(b) Write down the Median. (1)
(c) Work out the mean. Give your answer correct to 2 decimal places. (3)

10. Using fig (1) on your worksheet
(a) Mark the points $A(1,2)$, $B(-1,1)$, $C(0,-1)$ (3)
(b) If $ABCD$ is a square mark on the point D and write down its co-ordinates. (3)

11. A coin is tossed and a four-sided spinner with sides labelled *A, B, C, D* is spun.

(a) List all possible outcomes in a clear way.

(b) What is the probability of getting a head and side C?



(3)

12. Work out
    (a) $56.2 - 2.73$ (3)
    (b) $25.6 \div 4$ (2)
    (c) $3.2 \div 0.02$ (2)

13. The triangle ABC has vertices $A(2,1)$, $B(4,1)$, $C(4,2)$.
    Using fig (2) on your worksheet draw the image of ABC under
    (a) A 90^o anticlockwise rotation about the origin. Label this triangle X. (2)
    (b) A reflection in the line $y = x$. Label this image Y. (2)

14. 4 7 16 23 25
    From the above set of numbers list all that are
    (a) Prime numbers (2)
    (b) Square numbers (2)
    (c) Odd numbers (1)

15. Estimate the value of $\dfrac{29.7 \times 32.3}{0.0473}$ (3)

16. In the formulae below a, b, and c represent lengths.
    Write down the formulae that represent volumes.

    πa^2 $3ab^2$ $2a(b^2 + c)$ $\pi a^2(b + c)$ πbc (2)

17. Make x the subject of the following
    (a) $x + y = z$ (1)
    (b) $5x - 2y = 7$ (2)
    (c) $4 - x = y$ (2)

18. If twice y added to 5 equals 19.
    (a) Form an equation in y (2)
    (b) Solve your equation to find the value of y (2)

19. The table shows the weather for January 2006.

Weather	Number of days
Rain	12
Snow	5
Fine	6
Sun	8

    Based on this data a farmer wants to plan his work for next January.
    On any day next January what is the probability of
    (a) Snow. (1)
    (b) It not raining (1)
    (c) Neither snow nor rain (1)

20. Simplify leaving your answers in index form

(a) $2^3 \times 2^5$ (1)

(b) $3^5 \div 3^3$ (1)

(c) $a^2 \times a^3 \times a$ (1)

21. (a) Solve $2x - 5 \leq 3$ (2)

(b) Show your solution on a number line. (2)

22. Draw a horizontal line exactly 8 cm long and label it *AB*

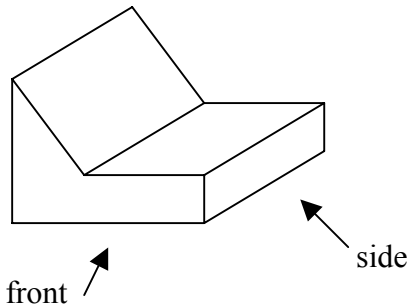
Using ruler and compasses only and showing all construction lines

(a) Construct the perpendicular bisector of *AB* (2)

(b) Mark a point *C* on your perpendicular 3 cm from *AB* (1)

(c) Measure the length *CB* (2)

23. The diagram shows a prism



Draw a sketch of

(a) The plan.

(b) The front elevation. (4)

24. John did a survey to find the proportion of cars passing his house that are silver.

The table shows his results.

Colour	Number
Silver	5
Other colours	15

(a) What fraction of his cars were silver? (1)

John deduces that $\frac{1}{4}$ of all cars are silver.

(b) Is John's statement correct? (1)

(c) Suggest one way John could have improved the reliability of his survey. (1)

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Fig(1)

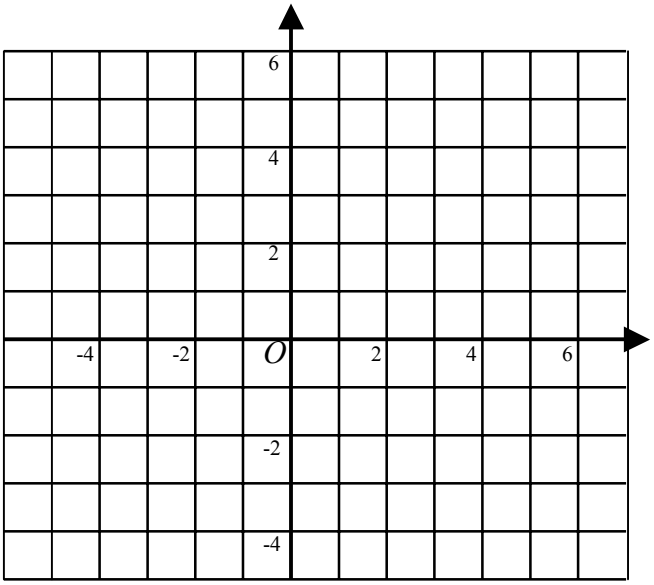

Fig (2)