

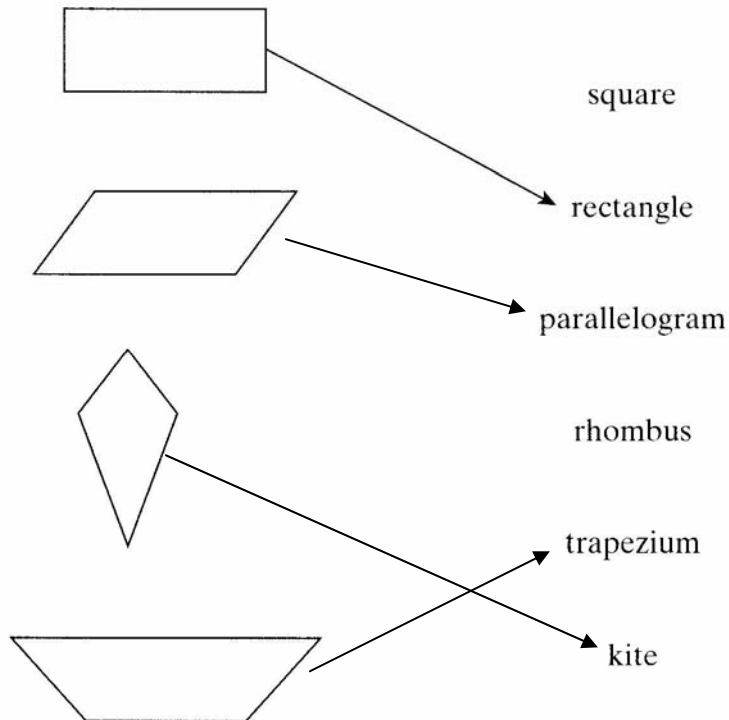
AQA 3301
Summer 2004
FOUNDATION SOLUTIONS
Paper 1 (Non – calculator) Solutions

1.

(a) 16000

(b) Barton, Carton & Arton

2.



3.

(a) Multiples means 'numbers in its times table' → 8 and 12

(b) 14 & 21

(c) $4 \times 7 = 28$

4.

(a) 847

(b) 328

(c) 1056

(d) 0.08

5.

B, E & F

6.

(a) 9 & 11

(b) Odd numbers

(c)(i)

Pattern number	1	2	3	4	5
Number of squares in each pattern	1	4	9	16	25

(ii) The pattern consists of square numbers, i.e. pattern $4 = 4^2 \rightarrow 16$

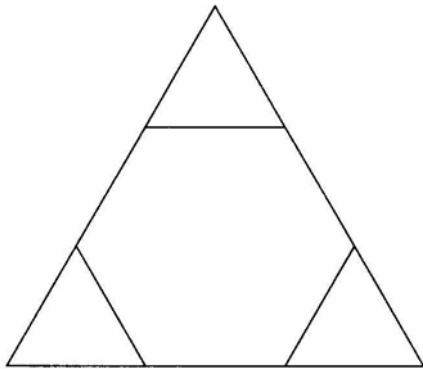
7.

(a)(i) Equilateral triangle

(ii) Hexagon

(b)(i) 3

(ii)



8.

(a) The diagonals are equal in length.

True

False

(b) The diagonals cross at right angles.

(c) The diagonals bisect each other.

(d) The diagonals are lines of symmetry.

9.

(a) About 30°

(b) Acute angle

10.

(a)

Number of letters in each word	Frequency
1	0
2	1
3	5
4	2
5	1
6	3
7	2
8	1
	$\Sigma 15$

(b) 3

(c)(i) $\frac{2}{15}$ (2 options from a possible 15)

(ii) $\frac{6}{15}$

(d) It would be greater

11.

(a) $8 \times 6 = 48$

(b) $\text{£}2.18 \times 8 = \text{£}17.44$

(c) $\text{£}20 - \text{£}17.44 = \text{£}2.56$

12.

(a) 16

(b) ± 9

13.

For row 1 $\rightarrow 4w = 24 \rightarrow w = 24 \div 4 \rightarrow w = 6$

For row 2 $\rightarrow 2w + 2x = 28 \rightarrow 2 \times 6 + 2x = 28 \rightarrow 12 + 2x = 28 \rightarrow 2x = 28 - 12$
 $\rightarrow 2x = 16 \rightarrow x = 16 \div 2 \rightarrow x = 8$

For row 3 $\rightarrow 2w + x + y = 25 \rightarrow (2 \times 6) + 8 + y = 25 \rightarrow y = 25 - 20 \rightarrow y = 5$

For row 4 $\rightarrow w + x + y + z = 23 \rightarrow 6 + 8 + 5 + z = 23 \rightarrow z = 23 - (6 + 8 + 5)$
 $\rightarrow z = 4$

14.

10% of $\text{£}420 = \text{£}42$

5% of $\text{£}420 = \text{£}21$

15% of $\text{£}420 = \text{£}63$

15.

Angles in a quadrilateral add up to $360^\circ \rightarrow 360 - (80 + 120 + 55)$

$\rightarrow 105^\circ$

$$1 \text{ pupil} = \frac{48}{16} \rightarrow 3$$

16.

Day	Number of pupils	Amount collected
Monday	16	£48
Tuesday	12	£36
Wednesday	20	£60

17.

Think about the ratios

$$200 : 4$$

$$x : 1 \text{ hour}$$

How do you get from 4 to 1? Divide by 4, so divide 200 by 4

$\rightarrow 50\text{mph}$

18.

$$1\% \text{ of } £40 = 0.40 \rightarrow 0.40 \times 60 = £24$$

$$\frac{1}{5} \text{ of } £55 = £11 \rightarrow £11 \times 2 = £22$$

hence 60% of £40 is the larger amount

19.

(a) $5x - x \rightarrow 4x$, remember x is just $1x$

(b) $3x + 7y$

(c) You could multiply the numbers first then multiply by $a \rightarrow 12a$

20.

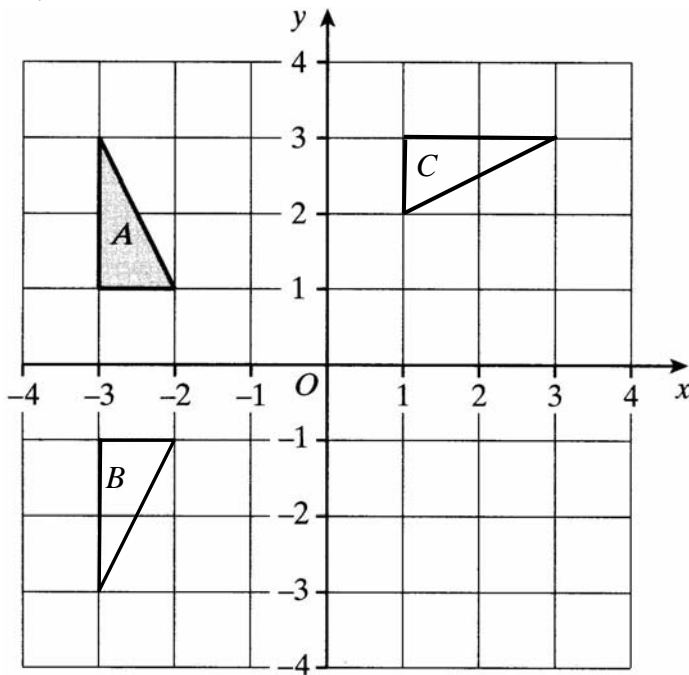
(a)/(b)

+	1	3	5	7
2	3	5	7	9
4	5	7	9	11
6	7	9	11	13
8	9	11	13	15

$$16 \text{ choices and } 6 \text{ are less than } 9 \rightarrow \frac{6}{16}$$

$$\rightarrow \frac{3}{8}$$

21.



22.

(a) $4x = 12 \rightarrow x = \frac{12}{4} \rightarrow x = 3$

(b) $y + 5 = \frac{28}{2} \rightarrow y + 5 = 14 \rightarrow y = 9$

(c) $10z = 7 \rightarrow z = \frac{7}{10}$

23.

$$\frac{1}{2} + \frac{1}{3} = \frac{1 \times 2 + 1 \times 3}{2 \times 3} \rightarrow \frac{5}{6}$$

24.

(a) All together there are 5 ratios $\rightarrow \frac{\pounds 250}{5} = \pounds 50$

\rightarrow Bob will receive $\pounds 50 \times 1 = \pounds 50$

\rightarrow Mary will receive $\pounds 50 \times 4 = \pounds 200$

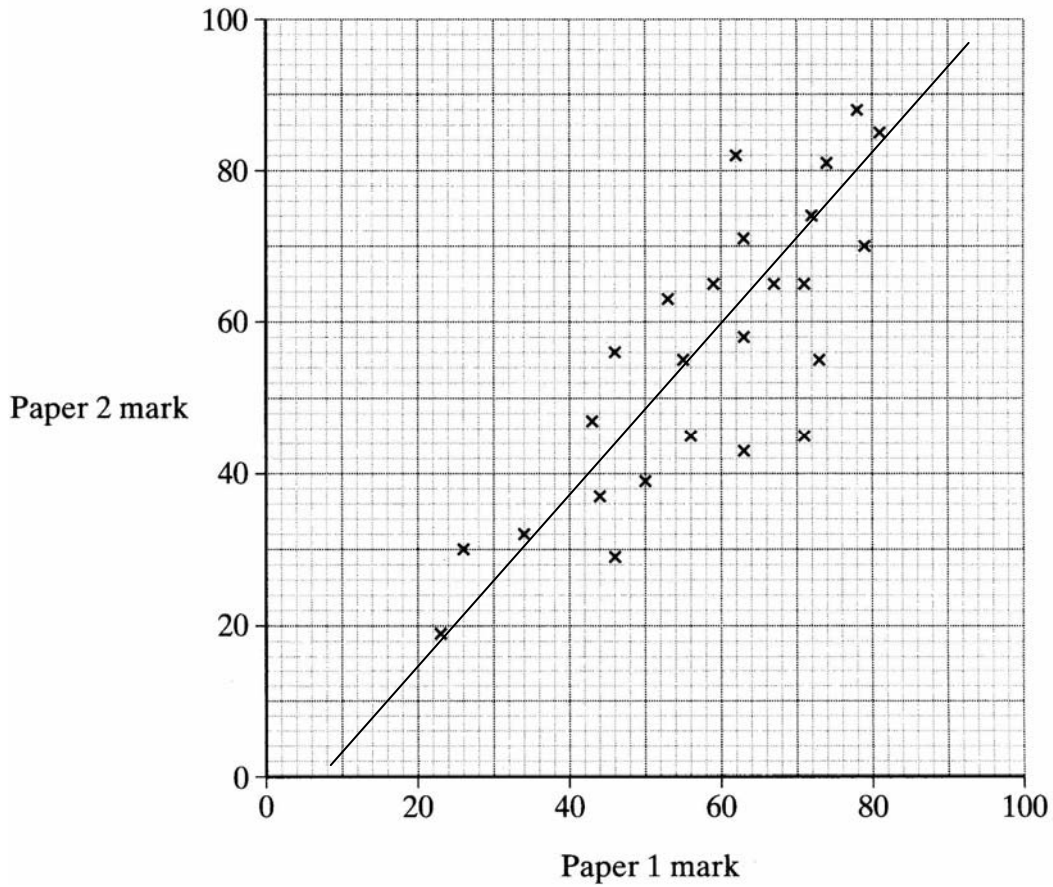
(b) $\frac{200}{250} \rightarrow \frac{20}{25} \rightarrow \frac{4}{5} \rightarrow 80\%$

26.

(a) 88 marks

(b) The graph is positively correlated

(c) See graph



(d) About 55 marks

END OF PAPER 1 SOLUTIONS