

Devonport High School for Boys
 11+ Mathematics Familiarisation Paper
 ** June 2023

Answers

1	B	2	D	3	C	4	E	5	C	6	B	7	A
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8	A	9	C	10	A	11	C	12	B	13	E	14	C
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15	C	16	B	17	B	18	E	19	E	20	D	21	A
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22	B	23	A	24	D	25	C	26	A	27	B	28	C
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29	E	30	D	31	A	32	E	33	D	34	C	35	B
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36	B	37	A	38	E	39	D	40	E	41	A	42	C
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43	C	44	B	45	A
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Notes

1 B $267 - 129 = 138$

2 D $8.20\text{pm} = 20.20$

3 C Centre is at (4,3)

4 E Box plus 3 boxes makes 4 boxes, so 4 boxes equal 44 meaning box must be 11

5 C $7 \times 94 = 658$

6 B A has 4, C, D, E have 1. Only B has 2

7 A $1/5 = 0.2 = 20\%$

8 A $14 - 9 = 5$

9 C 422.37 put numbers in correct columns

10 A $1\text{kg} = 1000\text{g}$ so $2.3\text{kg} = 2300\text{g}$

11 C $63182000 - 8540000 =$

12 B $930 - 147 = 783$, $783 - 147 = 636$, $636 - 147 = 489$, $489 - 147 = 342$, $342 - 147 = 195$, $195 - 147 = 48$

13 E 24 to -4 is gap of -28

14 C $9 \times 16 = 144$. So side 12

15 C Prime factors of 63 are 3 and 7

16 **B** $\frac{1}{4}$ of £3.36 = £0.84. $3 \times £0.84 = \text{B}$

17 **B** Converting all to mm 157, 520, 451, 430, 500 so B is largest

18 **E** 17 $\rightarrow$ 33, 33 $\rightarrow$ 65

19 **E** Median middle when in order -9, -5, -2, 0, 4 so -2 which is Friday

20 **D** 61 | 19 / 29

21 **A** Digits in size order

22 **B** Largest – smallest = 11 – 5 = 6

23 **A** millilitres

24 **D** $63 + 42 = 105$, $180 - 105 = 75$

25 **C** $4.3 + 1.05$ first then $\times$ by 2

26 **A** Easiest to do $15/5$ first then $\times 8$

27 **B** 1 hour is $\frac{1}{24}$ of a day so half hour is $\frac{1}{48}$

28 **C** Ones ending 5 not multiple of 2. 50 not multiple of 3.

29 **E** Left side 29 – Right side 24 leaves 5

30 **D** $24 \times 60 \times 60$

31 **A** 3 blue / 15 total so $\frac{3}{15} = \frac{1}{5}$

32 **E** 6h50mins = $360 + 50$ mins

33 **D** Total must be $6 \times 7 = 42$. Leaves 16 for last number

34 **C** Primes are 2,3,5,7,11

35 **B** 10% = £25 so 20% = £50 making total £300

36 **B** Only shape with 3 equal and no right angles

37 **A** $5 \times 0.35 = £1.75$ so 20p saving

38 **E** Blue is 5 out of total 20. So $\frac{1}{4}$ of circle which is 90 degrees

39 **D** $300\text{mg} \times 80 = 24000\text{mg} = 24\text{g}$ $160 - 24 = 136$

40 **E** 30degrees between each hour. At 10.30 4hrs = 120 degrees plus hour hand moved on half an hour so 135 degrees

41 **A** 42/63 can divide top and bottom by 7 then 3. Or by 21 directly.

42 **C** 1% of 1100 is 11 so 6% is 66

43 **C** $186/360 \times 180 = 186 / 2 = 93$

44 **B** 14 squared is 196

45 **A** Gap is 0.17. 49 gaps to get to 50th. So $49 \times 0.17 = 8.33$. 50th will be $1.23 + 8.33$

Approximate equivalent percentage

Score	%	Score	%	Score	%	Score	%
1	2	12	27	23	51	34	76
2	4	13	29	24	53	35	78
3	7	14	31	25	56	36	80
4	9	15	33	26	58	37	82
5	11	16	36	27	60	38	84
6	13	17	38	28	62	39	87
7	16	18	40	29	64	40	89
8	18	19	42	30	67	41	91
9	20	20	44	31	69	42	93
10	22	21	47	32	71	43	96
11	24	22	59	33	73	44	98