

Devonport High School for Boys
11+ Mathematics Familiarisation Paper
June 2021

Answers

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

Notes

1 D Digits in size order, largest to smallest

2 B 7 is the tallest bar so September

3 E $11.15 + 8 = 19.15$

4 B 1 along, 2 up

5 C $64 \div 8 = 8$ so $480 \div 8 = 80$

6 D Second digit after decimal point so hundredths

7 E $8/10 = 4/5$

8 B $568 \div 4 = 142$

9 A Quadrilateral (4 sided shape) has angle sum 360°

10 D $1\text{m} = 100\text{cm}$. $100 \div 12 = 8$ remainder 4. So 8.

11 C Brackets first $9 + 6 = 15$. $45 \div 15 = 3$

12 C Decreasing by 6 each time $39 - 6 = 33$

13 A $11 - 12 = -1$

14 C Blue $1/4$ of Pie chart represents $1/4$ of $100 = 25$ students

15 B 4.07 to 5.22 is 1h plus $22 - 7 = 15$ minutes. Making 75 minutes

16 B $180 / 4 = 45\text{mph}$

17 B Look at tenths first, then hundredths etc. 0.077, 0.107, 0.171, 0.701

18 C $3/15 \times 100\% = 1/5 \times 100\% = 20\%$

19 E $17+14+13+9+17 = 70$. Average = $70 \div 5 = 14$

20 E $13 \times 12 = 130 + 26 = 156$

21 D $\div 1000$ so digits move 3 places right giving 0.00302

22 A 4 to 6 is $\times 1.5$. $100 \times 1.5 = 150$

23 E (-2, 4) in x axis so x coordinate stays the same and y swaps sign (-2, -4)

24 D $\frac{1}{4}$ left. $\frac{1}{4}$ of 52 = 13

25 C 13 not square, none even, 9 not prime, 13 not divisible by 3 so A

26 D $17 \times 17 = 289$

27 A $V = 3 \times 6 \times 3 = 54$

28 E Convert all to fraction with 16 as denominator to compare. $8/16$, $4/16$, $6/16$, $12/16$, $3/16$ then order

29 D $4.779 + 2.35$. Use addition method.

30 A 40 only one which is multiple of both 4 and 5

31 E D is 2450. B is 2425. Half way between D and 2500 is 2475 which is E

32 D 76.60. The 597 has to round up because of the 7

33 C 43.26 to 432.6 so multiply by 10. 7 to 0.7 so divide by 10 again. Gives 302.82

34 D $8 \times 79 = 632\text{p}$. So change will be $10 - 6.32 = \text{£}3.68$

35 B $40 \times 15 = 600$. $600 + 270 = 870$

36 D $8 \times 2.5 - 3 \times 1.5 = 20 - 4.5 = 15.5$

37 A $27/10$

38 D 8m by 6m in tiles 8 tiles by 12 tiles = 96 tiles

39 B 3 games average 29 minutes means total 87 minutes. Add the fifth $87 + 33 = 120$. New average = $120 \div 4 = 30$

40 D 10% is 13. So 5% is 6.5. So 35% is $39+6.5=45.5$

41 A Increase by 4 each time. To get to the 50th term start from 7 and increase by 4 49 times. $7 + 4 \times 49 = 203$

42 E $3 \times 3 \times 3 = 27$ times bigger volume. So $27 \times 12 = 324$

43 B $a+a+a+2a+2a = 7a$

44 D 7 days $7 \times 24 = 168$ hours. 60×168 minutes. 10 080

Approximate equivalent percentage

Mark	Percentage
0	0
1	2
2	5
3	7
4	9
5	11
6	14
7	16
8	18
9	20
10	23
11	25
12	27
13	30
14	32

Mark	Percentage
16	36
17	39
18	41
19	43
20	45
21	48
22	50
23	52
24	55
25	57
26	59
27	61
28	64
29	66
30	68

Mark	Percentage
31	70
32	73
33	75
34	77
35	80
36	82
37	84
38	86
39	89
40	91
41	93
42	95
43	98
44	100