

St Paul's Girls School 2024 sample 1

Section A

- 1) D
- 2) C
- 3) B
- 4) C
- 5) E
- 6) C
- 7) C
- 8) C
- 9) E
- 10) A
- 1) 24
- 2) £0.85
- 3) 2,5,3,10
- 4) a) 533
b) 7 alphas, 17 betas, 4 gammas
- 5) 7
- 6) 22
- 7) 80cm
- 8) 10cm
- 9) 89
- 10) a) 1.2km
b) 9 minutes

Paper 2

- 1) a) i) $1+3+5+7=16=4^2$
 $1+3+5+7+9=25=5^2$
 $1+3+5+7+9+11=36=6^2$
ii) $1+3+5+\dots+25=169=13^2$
b) i) $13+15+17+19=64=4^3$
 $21+23+25+27+29=125=5^3$
 $31+33+35+37+39+41=216=6^3$
ii) 10
c) A=3, B=1, C=2, or A=6, B=3, C=3
- 2) a) 48
b) 10.5
c) $\frac{3}{8}$
d) 7
e) 6
f) The first is $y(x+y) = xy + y^2$. The second is $xy+x^2$. Unless x and y are the same x^2 and y^2 won't be the same.
- 3) a) ABCE 10 (Hint for this question – cross out all 'redundant' lengths. E.g. CF is redundant because it can be replaced by CE then EF, which combined are shorter.)

- b) HFGEC 14
c) ABCEGFH 21
- 4) 4×296
 2×592
 1×1184
Each time divide the left by 2 and multiply the right by 2
- b) 9×111
 3×333
 1×999
- c) $972 \times 1 / 36$
 $486 \times 1 / 18$
 $243 \times 1 / 9$
 $81 \times 1 / 3$
 $27 \times 1 / 1$
Or $972 / 36$
 $486 / 18$
 $243 / 9$
 $81 / 3$
27
- 5) a) i) 7
ii) 3
iii) 8
iv) 8
v) 3
- b) 2 and 4, or 6 and 12
c) 2 and 8, or 6 and 12