Summer School Prep - Product Rule for Counting (1)

① $\square\ \square\ \square\ \square\ \square$

$7 \times 6 \times 5 \times 4 \times 3 = 5038$ different combinations.

② 1 4 0 2 1990 0 1 2 4 9 .

$\square\ \square\ \square\ \square$

$4 \times 4 \times 3 \times 2 = 96$ different codes.

③ $\boxed{3}\ \boxed{4}\ \boxed{5}\ \boxed{A}\ \boxed{B}$

$15 \times 14 \times 13 \times 26 \times 25 = 1,774,500$

$1774500 \times \frac{1}{20} = 88725$

$88725 \times £0.25 = £22,181.25$ collected

Remove £5000 for charity

$22181.25 - 5000 = 17181.25$

1st prize $£8590.625 \simeq £8590.63$

2nd prize $17181.25 \times 0.3 \simeq £5154.375$
$\simeq £5154.38$

3rd prize $17181.25 \times 0.2 \simeq £3436.25$

Bill will raise £4999.99 for the charity so he will have to put 1p into the pot to make £5000.