

Question	Answer
1	A
2	C
3	A
4	A
5	A

GROCERY SHOPS AND NEWSAGENTS IN THE EUROPEAN UNION (PER 100 000 INHABITANTS)						
	Grocery shops		Newsagents		Population	
	1995	2005	1995	2005	1995	2005
Spain	310	380	210	260	42 500 000	43 200 000
Greece	330	400	230	270	11 000 000	11 040 000
Czech Republic	220	270	120	160	10 000 000	10 200 000
Poland	150	320	40	110	38 400 000	38 500 000
Malta	240	260	170	220	400 000	401 000
Austria	270	360	80	130	8 150 000	8 190 000
Hungary	190	250	60	-	9 970 000	9 980 000
Germany	300	330	180	210	82 500 000	82 520 000
Finland	120	220	110	100	5 200 000	5 230 000

Question 1.

What was the increase in the number of newsagents in Hungary between 1995 and 2005?

- a) 3 000
- b) 2 000
- c) 325 000
- d) 30

Number of increase = number of newsagents in 2005 – number of newsagents in 1995

Number of news agents in 1995 = $60 \times 99,7 = 5982$

Number of newsagents in 2005 = 8982

Number of increase = $8982 - 5982 = 3 000$

AMOUNT INVESTED TO COMBAT BANK FRAUD				
	Change between 2002 - 2004 (%)	Per year (thousand €)		
		2002	2003	2004
Ireland	+ 10 %	8 000	7 400	8 800
France	- 6 %	47 000	42 000	44 180
Germany	- 2 %	58 000	54 000	56 840
Finland	+ 3 %	4 500	3 390	4 635
Spain	+ 23 %	30 000	36 000	36 800
Austria	- 3 %	12 000	12 000	11 640

Question 2.

Spain informed the statistical office that produced the table to take into account a margin of error of between + 6 % and - 6 % for the data for 2003 and 2004. What is the range of possible values for the amount invested by Spain to combat bank fraud in 2004?

- a) Between € 33 840 000 and € 38 160 000
- b) Between € 34 216 000 and € 38 584 000
- c) Between € 34 592 000 and € 39 008 000**
- d) Between € 34 716 981 and € 39 148 936

Amount invested by Spain in 2004 = 36 800 (table)

Amount invested by Spain in 2004 , +6% = $36\,800 \times 1.06 = 39\,008$

Amount invested by Spain in 2004 , -6% = $36\,800 \times 0.94 = 34\,592$

Question 3.

In 2002, 30 % of Finland's total anti-fraud spending was to combat bank fraud. If the country's total anti-fraud spending rose by 13 % between 2002 and 2003, what percentage of its total anti-fraud spending in 2003 was to combat bank fraud?

- a) 20 %**
- b) 45 %
- c) 26 %
- d) 6.5 %

Finland anti fraud spending to combat bank fraud in 2002 = 4 500 = 30 % of the total anti fraud spending

Finland total anti fraud spending in 2002 = $4500 / 0.3 = 15\,000$

Finland total anti fraud spending in 2003 = $15\,000 \times 1.13 = 16\,950$

Share of spending to combat fraud in anti fraud spending in 2003 = $3\,390 / 16\,950 = 0.2$

MOBILE PHONE SUBSCRIPTIONS				
	Mobile phone subscriptions (per 100 inhabitants)		Population (thousands)	
	1997	2003	1997	2003
Belgium	10	80	10 100	10 300
France	10	70	58 100	59 800
Netherlands	11	83	15 500	16 200
Poland	2	46	38 600	38 200
Portugal	15	100	10 000	10 406
Norway	38	91	4 400	4 500
Switzerland	15	85	7 000	7 300

Question 4

What was the percentage increase in the number of mobile phone subscriptions in Portugal between 1997 and 2005, assuming that the population remained constant after 2003 and that the mobile phone subscription market grew by 5% between 2003 and 2005?

- a) 628 %
- b) 600 %
- c) 444 %
- d) 593 %

Percentage of increase in mobile phone subscriptions in PT 1997/ 2005 = (value in 2005 – value in 1997) / value in 1997

Value in 1997 = (10 000 /100) * 15 = 1500

Mobile phone subscription in 2003 = 100*1.05 = 105 per 100 hbt

Value in 2005 = (10 406/100) * 105 = 10 926, 3

Percentage of increase = (10 926,3 – 1500)/1500 = 6.28 = 628%

RATES OF DEAFNESS BY AGE GROUP (2005)

	Adolescents (aged 12 to 18)	Adults (aged 19 to 60)	Elderly (aged over 60)
United Kingdom	5 %	21 %	44 %
Greece	3 %	12 %	41 %
Germany	1 %	8 %	40 %
Sweden	1 %	10 %	42 %
France	5 %	21 %	4.5 %
Italy	2 %	9 %	35 %

Question 5

In 2004 there were twice as many adults as elderly people in Germany and the rate of deafness among adults was 70 % lower than among the elderly. If the number of elderly people in Germany in 2004 was 32 000 000 and the proportion of them who were deaf remained constant between 2004 and 2005, how many adults were deaf in 2004 in Germany?

- a **7 680 000**
- b 7 860 000
- c) 6 870 000
- d) 8 760 000

Number of elderly in Germany in 2004 = $x = 32\,000\,000$

Number of adults in Germany in 2004 = $2x = 64\,000\,000$

% of deaf people amongst the elderly in DE in 2004 = 40 %

% of deaf people amongst the adults in DE in 2004 = $40 \cdot 0.3 = 12\%$

Number of deaf adults in DE in 2004 = $64 \cdot 0.12 = 7.68$