PREP INVESTMENT BANKING

Break into the world of Finance
Online Tests
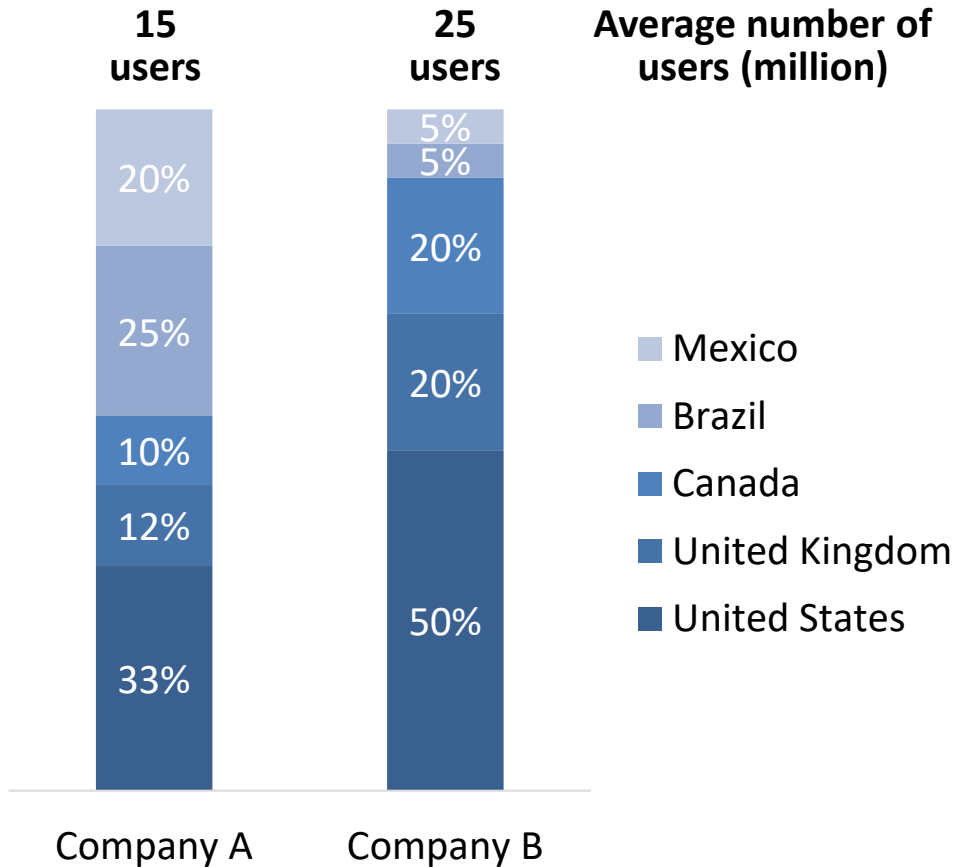
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Mathematical tests
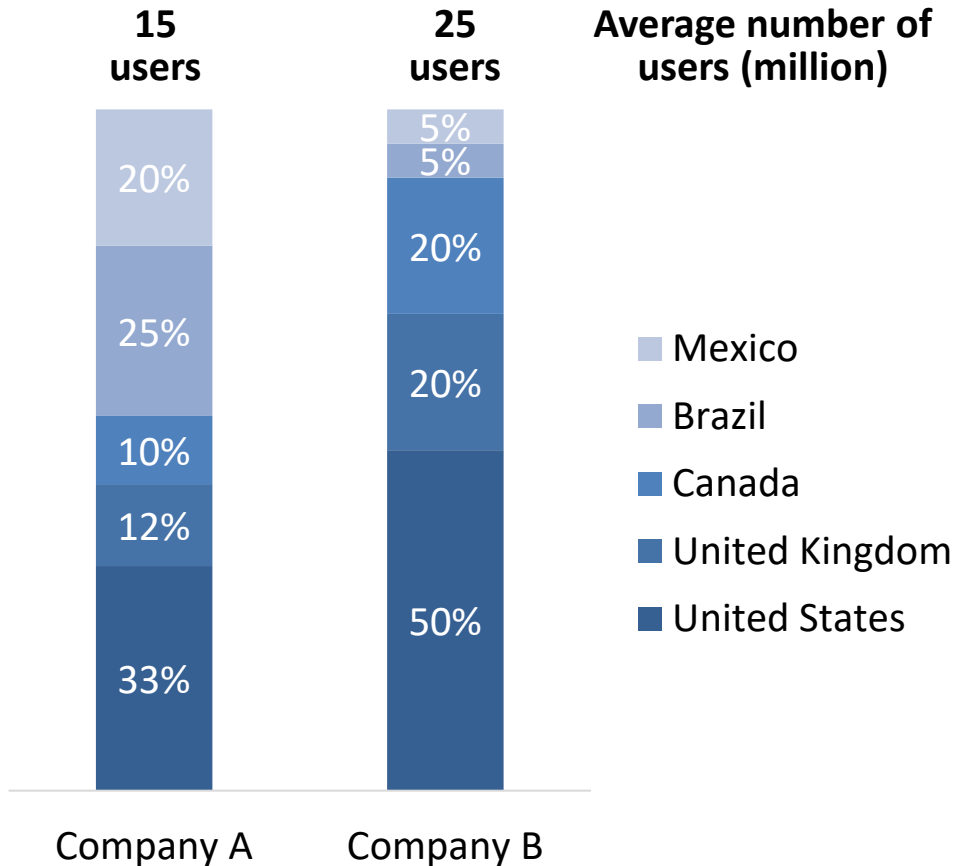
Mathematical tests (1/20)

15 users

25 users

Average number of users (million)

Company A
- 20%
- 25%
- 10%
- 12%
- 33%

Company B
- 5%
- 5%
- 20%
- 20%
- 50%

Legend:
- Mexico
- Brazil
- Canada
- United Kingdom
- United States

Company A users in Canada are expected to increase 10% per year, whereas the users of the same Company in Mexico are expected to be stable. How long will it take for the number of users in Canada to overtake users in Mexico?

A. 2 years

B. 4 years

C. 6 years

D. 7 years

E. 8 years

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Mathematical tests (2/20)

15 users | **25 users** | **Average number of users (million)**

Chart — Company A and Company B stacked bars:

Company A:
- 20%
- 25%
- 10%
- 12%
- 33%

Company B:
- 5%
- 5%
- 20%
- 20%
- 50%

Legend:
- Mexico
- Brazil
- Canada
- United Kingdom
- United States

How much greater is the number of users of Company B in United Kingdom and Canada than those of Company A in the same countries?

A. 2 million

B. 4 million

C. 6 million

D. 7 million

E. Cannot say

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Mathematical tests (3/20)

Financial company data

	Co. A	Co. B	Co. C	Co. D	Co. E
Turnover ($/mln)	100	20	30	45	200
EBITDA ($/mln)	20	2	5	10	35
Net profit ($/mln)	5	1	2	4	20
Net debt ($/mln)	50	20	10	25	150
Assets ($/mln)	200	60	70	60	400
Share price ($)	4	1	3	2	6
# of shares (mln)	100	200	150	200	3,000

Which company has the highest EBITDA Margin?

A. Company A

B. Company B

C. Company C

D. Company D

E. Company E

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Mathematical tests (4/20)

Financial company data

	Co. A	Co. B	Co. C	Co. D	Co. E
Turnover ($/mln)	100	20	30	45	200
EBITDA ($/mln)	20	2	5	10	35
Net profit ($/mln)	5	1	2	4	20
Net debt ($/mln)	50	20	10	25	150
Assets ($/mln)	200	60	70	60	400
Share price ($)	4	1	3	2	6
# of shares (mln)	100	200	150	200	3,000

Which company has the lowest turnover per share?

A. Company A

B. Company B

C. Company C

D. Company D

E. Company E

Mathematical tests (5/20)

Profit per unit company data

Product	Total cost per unit			Sale price per unit
	Production	Distribution	Seller	
Product a	£12.25	£1.10	£4.35	£42.00
Product b	£12.95	£2.20	£3.20	£54.00
Product c	£14.75	£1.30	£3.25	£58.95
Product d	£22.40	£4.00	£5.60	£84.00
Product e	£31.65	£3.35	£8.45	£112.00

How many units of Product b would you need to sell to make more profit than you would by selling 10,000 units of Product a?

A. 6,816

B. 9,530

C. 13,842

D. 15,944

E. None of these

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Profit per unit company data

Product	Total cost per unit			Sale price per unit
	Production	Distribution	Seller	
Product a	£12.25	£1.10	£4.35	£42.00
Product b	£12.95	£2.20	£3.20	£54.00
Product c	£14.75	£1.30	£3.25	£58.95
Product d	£22.40	£4.00	£5.60	£84.00
Product e	£31.65	£3.35	£8.45	£112.00

If the production costs of the Product c increase by £2.80 and the sales price goes down by £1.20, what would be the total profit on 500 Production c?

A. 8,950

B. 12,000

C. 15,200

D. 17,825

E. Cannot say

Mathematical tests (7/20)

Stock market company data

Company	Share Price ($)			Number of Shares (# million)
	High	Low	Latest	
Co. A	0.60	0.54	0.59	12.8
Co. B	1.70	0.30	0.50	3.8
Co. C	1.00	0.90	0.94	4.9
Co. D	1.10	1.02	1.04	5.4

Assuming that the number of shares has not changed, by approximately how much has the Market Capitalization of Company D decreased since the highest share price?

A. $ 0.3 million

B. $ 0.4 million

C. $ 0.8 million

D. $ 1.2 million

E. $ 2.4 million

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Mathematical tests (8/20)

Stock market company data

Company	Share Price ($)			Number of Shares (# million)
	High	Low	Latest	
Co. A	0.60	0.54	0.59	12.8
Co. B	1.70	0.30	0.50	3.8
Co. C	1.00	0.90	0.94	4.9
Co. D	1.10	1.02	1.04	5.4

If you bought and sold 5 million Company A shares, what is the greatest amount of profit you could have made?

A. $ 0.1 million

B. $ 0.4 million

C. $ 1.0 million

D. $ 1.4 million

E. None of these

Mathematical tests (9/20)

Cloud Co. branches

$ mln / (number of companies)

2014

2020

18

14.6

15.0

14

12.0

10

9.0

7.2

6

4.6

4.0

3.0

2

1.6

1.8

2.0

-0.1

-2

Private Cloud (28) | Colocation (18) | Public Cloud (34) | Private Cloud (32) | Colocation (10) | Public Cloud (44)

■ Revenue ■ Net Profit
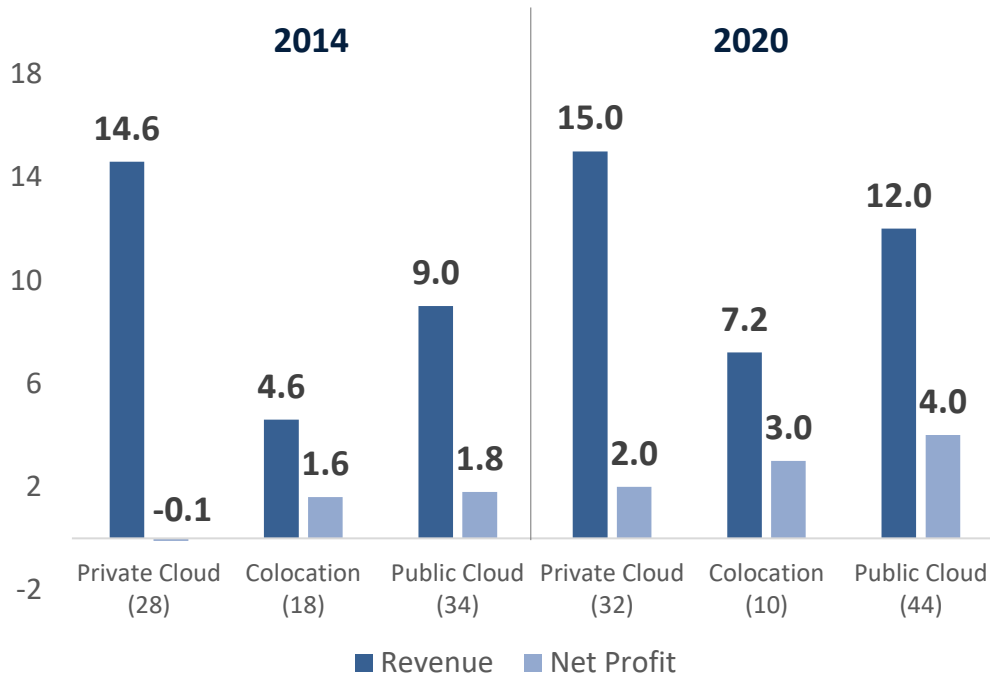
How many euros were produced more in 2020 than 2014 by each company in the Cloud Co. Private Cloud sector as net profit (in 000s)?

A. 58.593 euro

B. 66.071 euro

C. 72.984 euro

D. 84.634 euro

E. None of these

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Mathematical tests (10/20)

Cloud Co. branches

$ mln / (number of companies)

2014

2020

18

14.6

15.0

14

12.0

10

9.0

7.2

6

4.6

4.0

3.0

1.6

1.8

2.0

2

-0.1

-2

| Private Cloud (28) | Colocation (18) | Public Cloud (34) | Private Cloud (32) | Colocation (10) | Public Cloud (44) |

■ Revenue ■ Net Profit
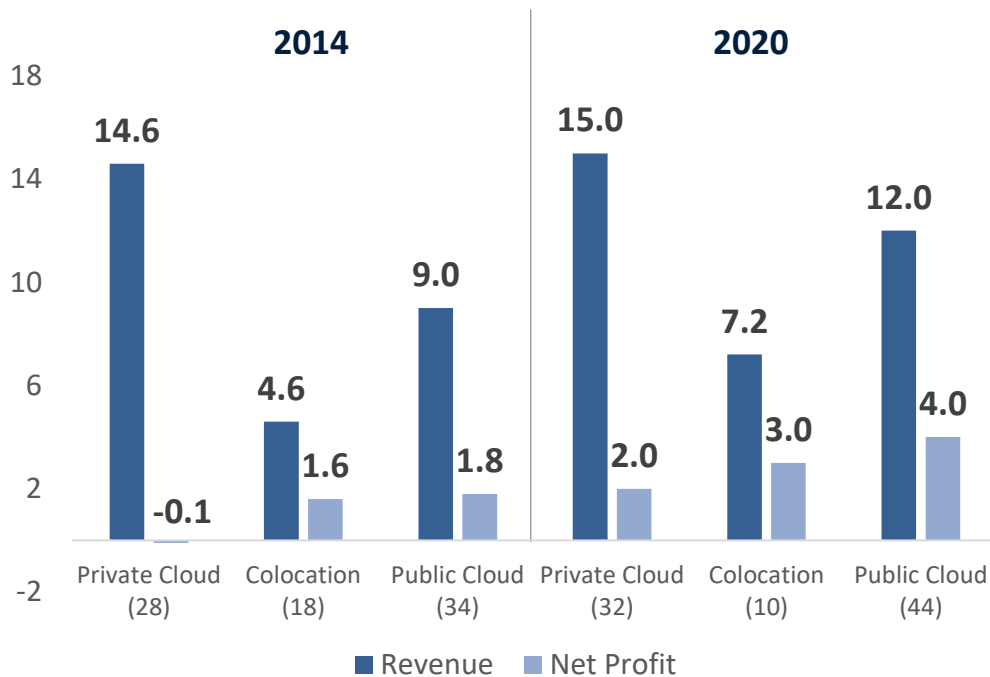
Approximatively what are, on average, the revenues made by Cloud Co. per company in 2014 excluding Colocation (in 000s)?

A. 300.000 euro

B. 345.500 euro

C. 380.500 euro

D. 425.750 euro

E. 450.650 euro

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Mathematical tests (11/20)

Cloud services providers revenue ($ million)
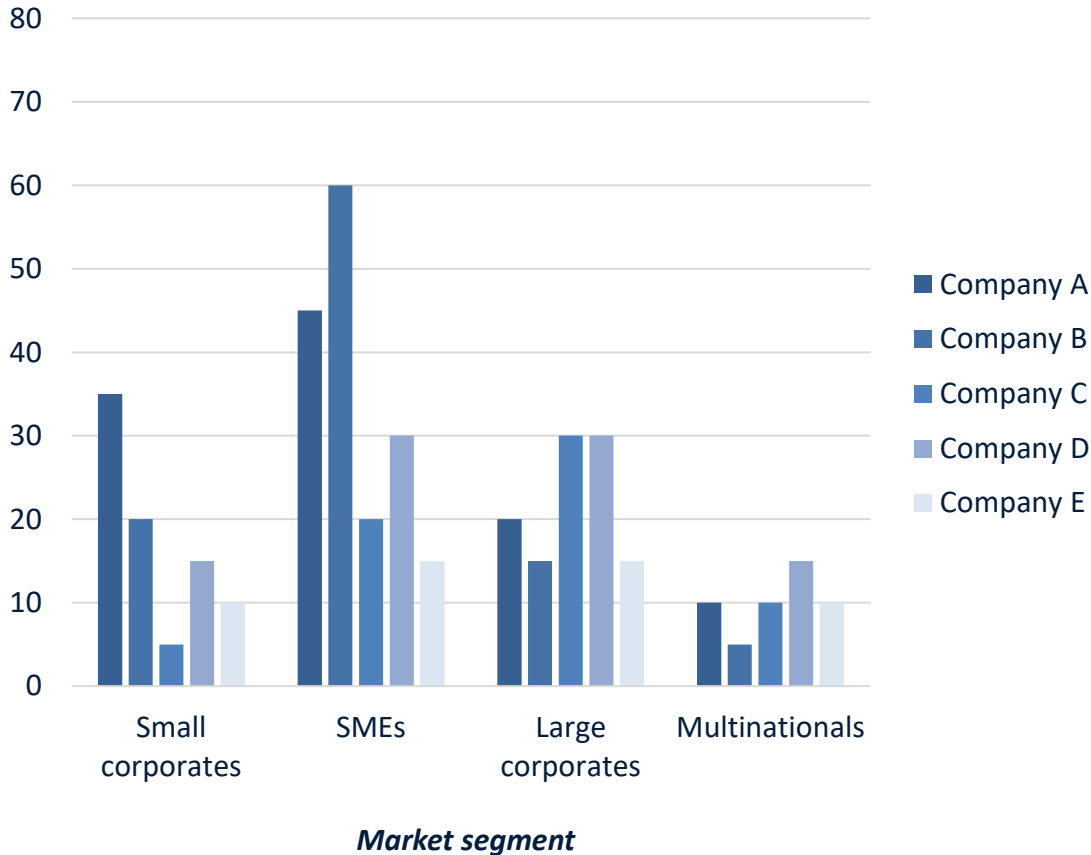
If the overall SMEs revenue increase to $300 million what would Company B's SMEs revenue be approximately?

A. $ 80 million

B. $ 84 million

C. $ 96 million

D. $ 102 million

E. $ 106 million

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Mathematical tests (12/20)

Cloud services providers revenue ($ million)
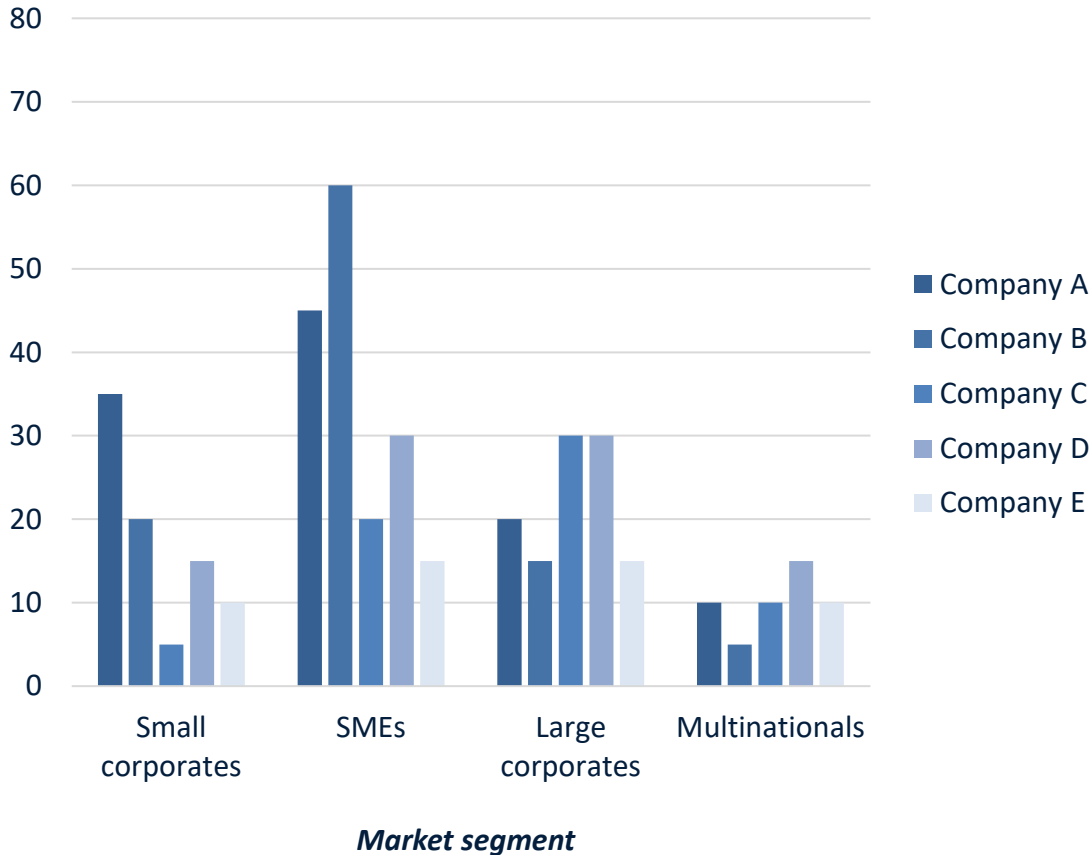
Approximately what proportion of the total cloud services revenue is Company A in the Large corporates market segment responsible for?

A. Less than 5%

B. 5% to 10%

C. 10% to 20%

D. 20% to 30%

E. 30% to 40%

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Mathematical tests (13/20)

Cloud Company operating performance ($ million)

	2015	2016	2017	2018	2019	2020
Sales	1,700	2,200	2,700	2,510	2,550	2,750
Cost of Sales	1,000	1,490	1,650	1,545	1,560	1,712
Sales Margin	700	710	1050	965	990	1038
EBITDA	408	290	460	380	396	438

If the percentage loss in EBITDA will continue in the same way as between 2018 and 2017, how many years would it take for it to fall below 2016 levels?

A. 1

B. 2

C. 3

D. 4

E. Cannot say

Mathematical tests (14/20)

Cloud Company operating performance ($ million)

	2015	2016	2017	2018	2019	2020
Sales	1,700	2,200	2,700	2,510	2,550	2,750
Cost of Sales	1,000	1,490	1,650	1,545	1,560	1,712
Sales Margin	700	710	1050	965	990	1038
EBITDA	408	290	460	380	396	438

What was the compounded annual growth rate between 2018 and 2020?

A. 3.3%

B. 4.7%

C. 5.9%

D. 7.2%

E. 8.4%

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Mathematical tests (15/20)

Packaging Company production breakdown (%)
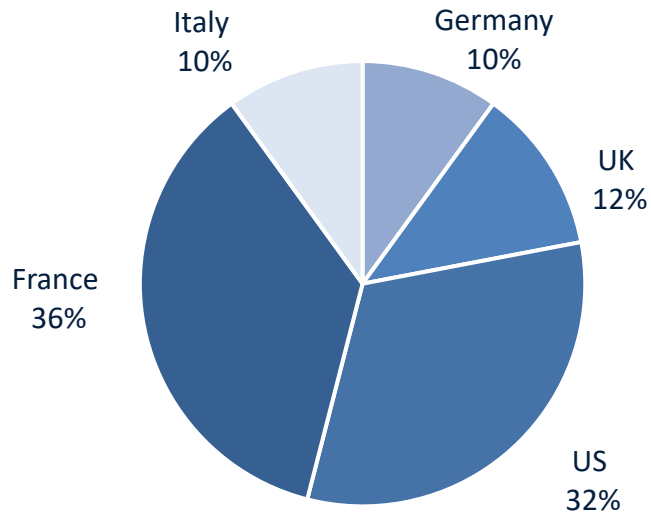
How many more boxes were produced in the US compared to Italy?

**Total packaging production per country –
80 million boxes**

A. 8.40 million

B. 10.20 million

C. 15.40 million

D. 17.60 million

E. 19.54 million

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Mathematical tests (16/20)

Packaging Company production breakdown (%)
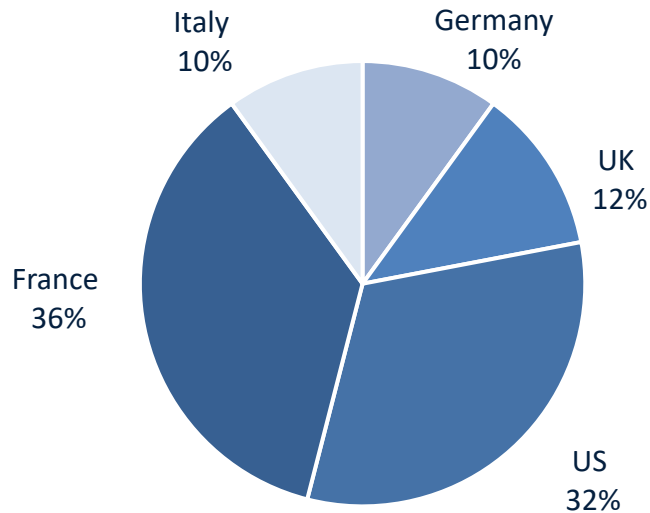
Total packaging production per country – 80 million boxes

If the total revenue generated from the US was $520 million, how much would approximately be the price for a box in the US?

A. $15

B. $18

C. $20

D. $24

E. $28

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Mathematical tests (17/20)

Sales UK ICT market (mln units sold)
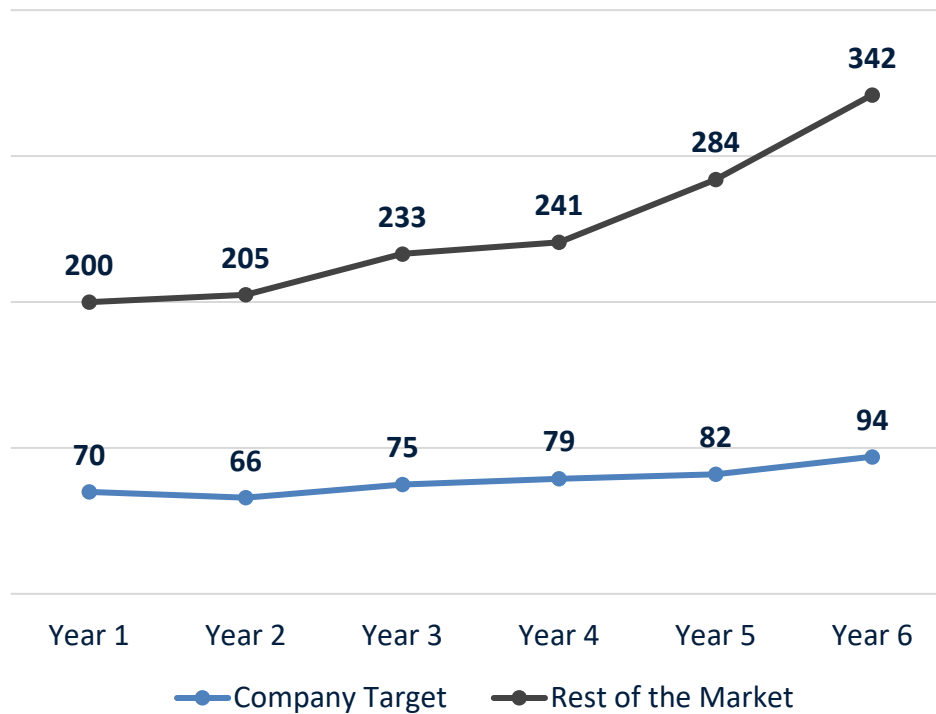
How many units would Company Target's had to sell in Year 5 to match the market share they achieved in Year 1?

A. 90.4 million

B. 93.2 million

C. 99.4 million

D. 100.1 million

E. 105.4 million

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Mathematical tests (18/20)

Sales UK ICT market (mln units sold)
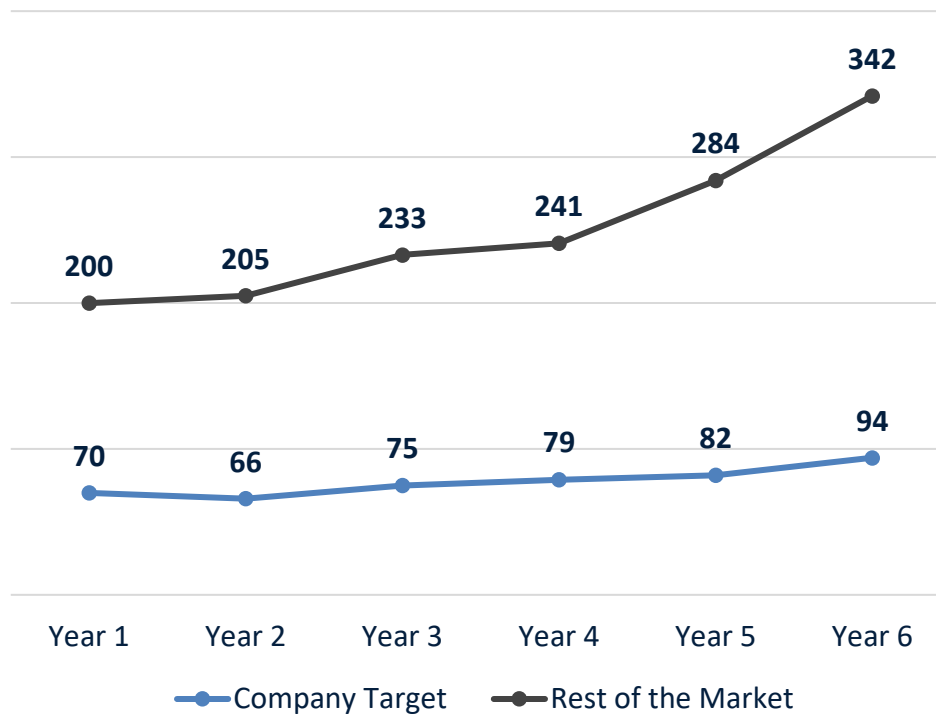
How many units were sold from Company Target competitors between Year 1 and Year 6?

A. 442 million

B. 648 million

C. 898 million

D. 1,505 million

E. 2,404 million

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Mathematical tests (19/20)

Key countries' information (illustrative numbers)

	Germany	Russia	China
Population (million)	62	200	1032
GDP (million $ USA)	1,142,000	500	1,000,000
Urban : Rural population (%)	92.4 : 7.6	72.8 : 27.2	24.2 : 75.8
Wi-fi connection (million)	32.2	14.6	10.8
Vehicles – Automobiles (million)	24.4	16.8	4.6
Vehicles – Motorbikes (million)	5.4	2.8	1.8
Total Cable Network (million km)	0.44	2.2	2.8

How many people live in the rural area in Germany and have automobiles?

A. 424,188

B. 560,420

C. 54,820,400

D. 57,288,000

E. Cannot say

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Mathematical tests (20/20)

Key countries' information (illustrative numbers)

	Germany	Russia	China
Population (million)	62	200	1032
GDP (million $ USA)	1,142,000	500	1,000,000
Urban : Rural population (%)	92.4 : 7.6	72.8 : 27.2	24.2 : 75.8
Wi-fi connection (million)	32.2	14.6	10.8
Vehicles – Automobiles (million)	24.4	16.8	4.6
Vehicles – Motorbikes (million)	5.4	2.8	1.8
Total Cable Network (million km)	0.44	2.2	2.8

What is approximately the proportion between the number of Wi-fi connection in China compared to Germany?

A. 1:6

B. 2:6

C. 2:9

D. 5:11

E. 5:12

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Mathematical tests - Solutions

1. E		11. E
2. D		12. A
3. D		13. B
4. E		14. B
5. A		15. D
6. D		16. C
7. A		17. C
8. E		18. D
9. B		19. E
10. C		20. B

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Logical tests

Logical tests (1/10)
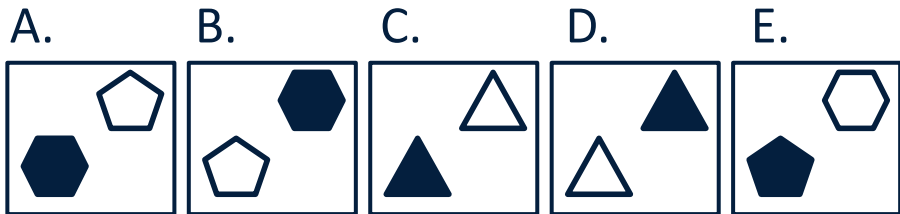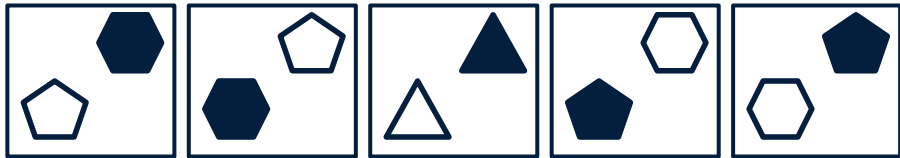
A.   B.   C.   D.   E.

Select among the following options the right diagram that fit in the sequence:
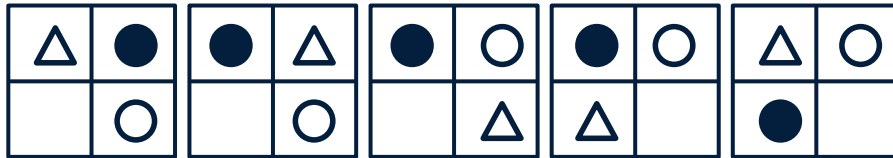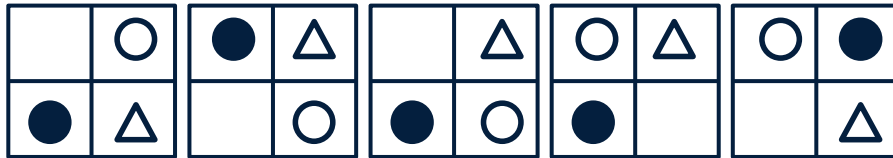
A. A

B. B

C. C

D. D

E. E

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Logical tests (2/10)

Select among the following options the right diagram that fit in the sequence:
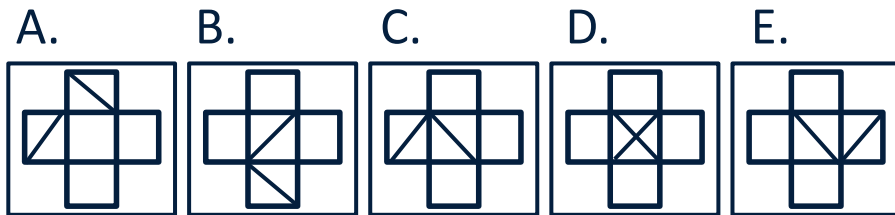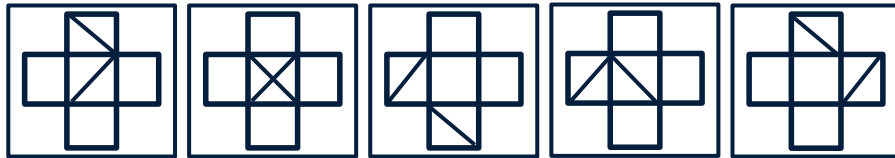
A. A

B. B

C. C

D. D

E. E

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Logical tests (3/10)

Select among the following options the right diagram that fit in the sequence:
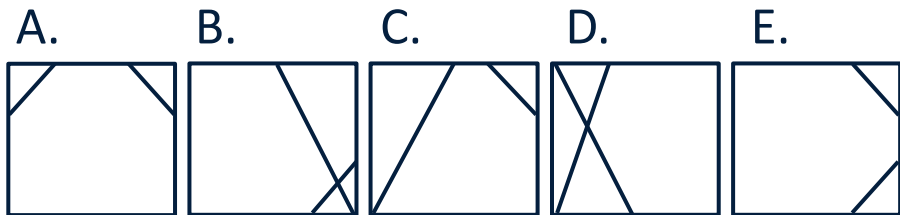
A. A

B. B

C. C

D. D

E. E

PREP INVESTMENT BANKING
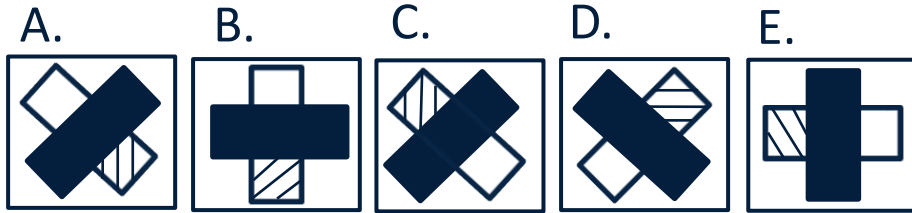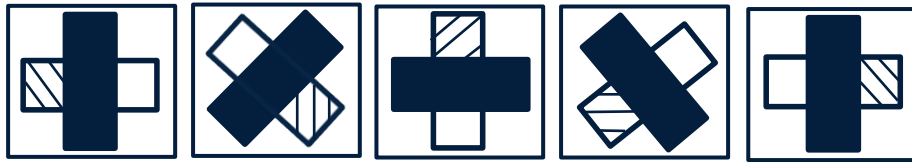
Logical tests (4/10)

Select among the following options the right diagram that fit in the sequence:

A. A

B. B

C. C

D. D

E. E

PREP INVESTMENT BANKING

Select among the following options the right diagram that fit in the sequence:

A. A

B. B

C. C

D. D

E. E

Select among the following options the right diagram that fit in the sequence:

A. A

B. B

C. C

D. D

E. E

Logical tests (7/10)

Select among the following options the right diagram that fit in the sequence:

A. A

B. B

C. C

D. D

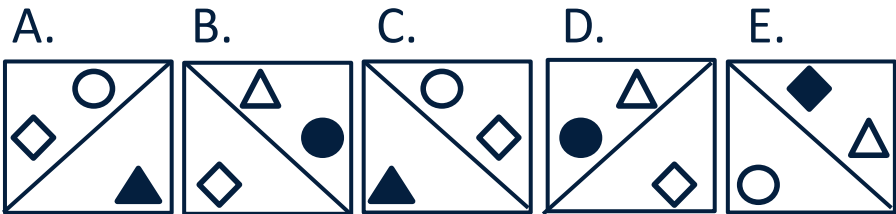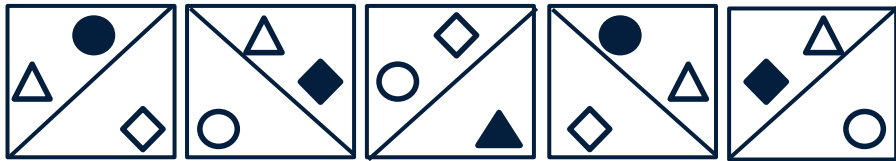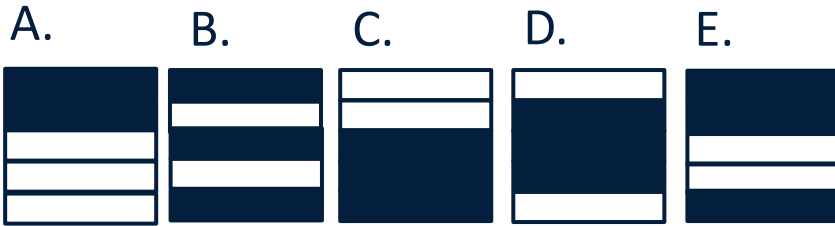E. E

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Select among the following options the right diagram that fit in the sequence:

A. A

B. B

C. C

D. D

E. E

Logical tests (9/10)

A.   B.   C.   D.   E.

Select among the following options the right diagram that fit in the sequence:

A. A

B. B

C. C

D. D

E. E

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Logical tests (10/10)

Select among the following options the right diagram that fit in the sequence:
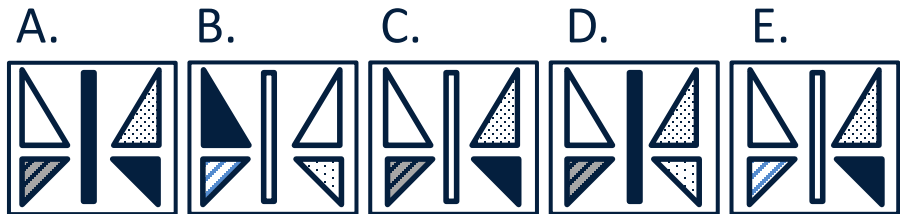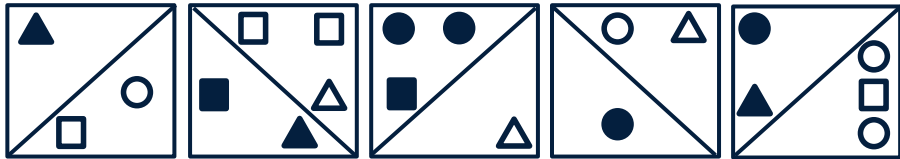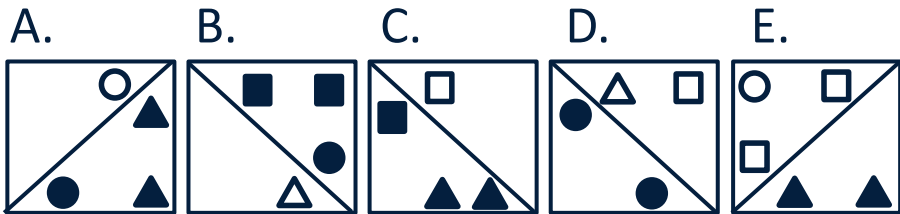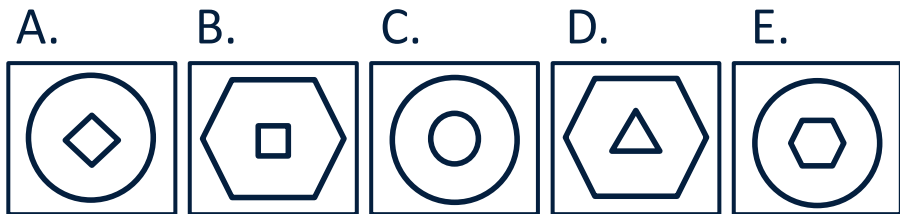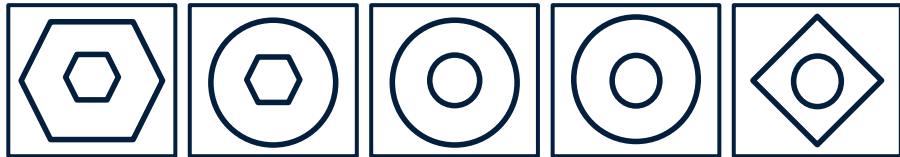
A. A

B. B

C. C

D. D

E. E

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Logical tests - Solutions

1. C

2. C

3. D

4. E

5. C

6. C

7. A

8. E

9. C

10. A

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Situational tests

Situational tests (1/5)

Scenario

John, a Vice President at the bank, asked you to work on a presentation about a potential target company for a meeting with the Business Development Director of "The Cloud" Company. John has a long-standing relationship with the client and knows them very well. Ten minutes before the meeting John sent you an email saying he could not attend the meeting. What would you do?

Responses to the situation (1 = Very Appropriate; 5 = Very Inappropriate)	1	2	3	4	5
a. Explain to John that you cannot present the information to the client					
b. Say to John that you think it might more helpful to postpone the meeting since he would not be able to join					
c. Present the information and inform the client that they should refer to John for any questions they might have					
d. Present the information and explain that you may need to refer to John if you are not able to answer a question on a specific topic					

Situational tests (2/5)

Scenario

The Bank organized a training event which you are attending. You are required to work in teams to develop an innovative service for customers and to improve their overall experience and satisfaction. You observe that one of your team members, Ambra, dominates the team discussion. She joined the Bank more than a year ago and she proposed a good idea. However, in the group there is also Laura. She is quieter and less experienced but seems very smart. Each time she tries to speak, Ambra dismisses her ideas and draws the group's attention back to her own idea.

Responses to the situation (1 = Very Appropriate; 5 = Very Inappropriate)	1	2	3	4	5
a. Ask to hear more about Laura's ideas, as sharing ideas is important for innovation and overall group performance					
b. Advise Ambra, in the presence of the other colleagues, that she is dominating the group discussion and would be better to stop doing this					
c. Talk with your manager and explain that Ambra behaviour is not fair for the other group members					
d. Propose to develop Ambra's idea, it is good and she is also more experienced than Laura					

Situational tests (3/5)

Scenario

Your manager Carol forwards you an e-mail from "The Cloud" Company requesting to manage a work for them. It involves gathering information on different products from other banks to identify the most suitable product for the client's needs. However, you think the client request is unclear and ask Carol for further information. After two days gathering information from other banks departments, you discuss your initial findings with the client on a telephone call. Unfortunately, the client informs you that you have been gathering information on the wrong thing.

Responses to the situation (1 = Very Appropriate; 5 = Very Inappropriate)	1	2	3	4	5
a. Inform the client (politely) that their initial request was unclear					
b. Advise the client that your manager gave you incorrect information and apologise with them					
c. Inform the client that you are not the relevant decision maker and they should speak with your manager					
d. Discuss with the client their expectation of the work in more detail					

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Situational tests (4/5)

Scenario

At an internal bank conference you are presenting at your colleagues how Artificial Intelligence can change the banking dynamics. You feel the presentation was good. One of your colleague, Abraham, also gave a presentation on digital payments. However, even if he showed great communication skills, you think his presentation was not great from a data standpoint. At the end of the conference, Abraham tells you that your presentation was excellent. You thank him for his feedback but are unsure what to say to him in return.

Responses to the situation (1 = Very Appropriate; 5 = Very Inappropriate)	1	2	3	4	5
a. Suggest Abraham to review some of the content of the presentation in the future, as some of the data did not seem to be correct					
b. Give Abraham a detailed feedback, addressing what was positive and what was less positive about his presentation					
c. Tell Abraham that overall you think the presentation was good and then change the subject of the conversation on something else					
d. Tell Abraham that you think his presentation was excellent as well, then provide no further feedback					

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Situational tests (5/5)

Scenario

Your role at the bank involves speaking directly with customers to advise them on how to best manage their personal wealth. In this department, you have been working a lot with your colleague Greg. You really enjoy the time working with him and your manager is very happy about your work at the bank. However, recently Greg performance has declined substantially. He has been distracted at work, arriving late and less helpful to customers.

Responses to the situation (1 = Very Appropriate; 5 = Very Inappropriate)	1	2	3	4	5
a. Since Greg performance has been negative only recently, just do nothing for few weeks hoping his behaviour will improve again					
b. Avoid Greg getting into trouble with your manager by covering his work where you can					
c. Explain Greg that his recent attitude towards customers has not been very positive, also ask if there is anything you can do to help him					
d. Do not speak about the recent underperformance with Greg, just advise the manager that Greg is underperforming					

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Situational tests - Solutions

1. a: 4; b: 5; c: 2; d: 1.

2. a: 1; b: 4; c: 5; d: 3.

3. a: 5; b: 3; c: 4; d: 1.

4. a: 3; b: 1; c: 4; d: 5.

5. a: 4; b: 4; c: 1; d: 5.

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Verbal tests

Verbal tests (1/6)

Digital game users

A recent study found that regular users of unlicensed digital game services spent an average of 5.60 €/month on legal digital game services. This compares to 9.40 €/month spent by other digital game users. The research definitely shows that digital game users who break piracy laws (i) are not highly valuable customers, and (ii) they are willing to also use legal digital game services in the future

Digital game users who use only licensed digital games spend more time on digital game platform than users who use both licensed and unlicensed digital game platforms?

A. True

B. False

C. Cannot Say

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Verbal tests (2/6)

Digital game users

A recent study found that regular users of unlicensed digital game services spent an average of 5.60 €/month on legal digital game services. This compares to 9.40 €/month spent by other digital game users. The research definitely shows that digital game users who break piracy laws (i) are not highly valuable customers, and (ii) they are willing to also use legal digital game services in the future

Digital game users breaking piracy laws are target customers for companies providing digital game services?

A. True

B. False

C. Cannot Say

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Verbal tests (3/6)

Green Infrastructure Fund Project

The project undertaken by the Green Infrastructure Fund was large, complex, and innovative from different perspectives. Therefore, it was a really difficult project for the Fund.

However, a detailed estimate of the difficulties and a great project management enabled the Fund to facilitate a better project preparation and implementation. In January 2016, The Cloud, the company tasked with completing the project on behalf of the Fund, delivered the project within the promised deadline. In 2018, the positive impact of the project on the P&L of the Fund was already visible in terms of lower costs.

The detailed preparation and management of the project enabled the Green Infrastructure Fund to increase the chance of success of the project?

A. True

B. False

C. Cannot Say

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Verbal tests (4/6)

Green Infrastructure Fund Project

The project undertaken by the Green Infrastructure Fund was large, complex, and innovative from different perspectives. Therefore, it was a really difficult project for the Fund.
However, a detailed estimate of the difficulties and a great project management enabled the Fund to facilitate a better project preparation and implementation. In January 2016, The Cloud, the company tasked with completing the project on behalf of the Fund, delivered the project within the promised deadline. In 2018, the positive impact of the project on the P&L of the Fund was already visible in terms of lower costs.

The Cloud ability to complete the project in time enabled the Fund to achieve a higher benefit on the P&L?

A. True

B. False

C. Cannot Say

Verbal tests (5/6)

Web invention

The web's invention has been changing the world in many ways. Many of the developments in web architecture have been undertaken with the desire to connect the world at a higher speed, and the challenge of innovating the way people communicate in a more accurate and instantaneous way.

Since its introduction, there have been major innovations in the development of the web with a profound effect on the world dynamics.

The web was invented because humans wanted to communicate instantaneously?

A. True

B. False

C. Cannot Say

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Verbal tests (6/6)

Web invention

The web's invention has been changing the world in many different ways. Many of the developments in web architecture have been undertaken with the desire to connect the world at a higher speed, and the challenge of innovating the way people communicate in a more accurate and instantaneous way.
Since its introduction, there have been major innovations in the development of the web with a profound effect on the world dynamics.

The web invention had only marginal effect on people's life?

A. True

B. False

C. Cannot Say

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Verbal tests - Solutions

1. C

2. C

3. A

4. C

5. C

6. B

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