McKinsey&Company

McKinsey Problem Solving Test

Practice Test A

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Practice Test Overview and Instructions

This practice test has been developed to provide a sample of the actual McKinsey Problem Solving Test used for selection purposes. This test assesses your ability to solve business problems using deductive, inductive, and quantitative reasoning. This practice test contains a total of 26 questions. The actual test contains 26 questions and you will be given 60 minutes to answer as many questions as possible.

You will be presented with three scenarios based on actual McKinsey client cases. Information related to each scenario will be shown in text, tables, and exhibits. This information is presented in shaded areas and is distributed in sections throughout the scenario. The questions ask you to find the most appropriate answer to the problem as described using only the information presented. You should select one and only one answer to any question.

While completing this practice test, do not use any electronic devices (e.g., calculator, computer) when performing calculations to answer the questions. Electronic devices will not be permitted to be used during the actual test administration. Also during the actual test administration, you may use all blank space in the test booklet as scratch paper to assist you in performing any calculations and recording any notes. No scratch paper will be allowed. Booklets will be destroyed after you complete the test and will not be used in any way to determine your test scores. Your final test score will be based on the number of questions you answer correctly.

The practice scenarios begin on the next page of this booklet. Only consider information contained within the scenario when determining your answer. Considering all information presented within the scenario is critical to answering questions correctly.

After you have completed the test, score your answers using the answer key located at the end of this booklet. Add the number of correct answers to determine your final total score.

Kosher Franks

Kosher Franks is a company that sells hot dogs and other packaged meat products, such as salami and lunch meats, in the United States. *Kosher Franks*' products are primarily sold through grocery stores. While not a very large company, it has strong brand recognition in the packaged meat market and a reputation for high quality products.

Kosher Franks' customers are large grocery store chains or grocery distributors, who sell to smaller chains or independent grocery stores across the US. The prices, which *Kosher Franks* presents to these chains or distributors, are negotiated individually and depend on many factors. Some of these factors include the volume to be purchased, whether the customer is a new customer or an existing one, and any promotional or marketing arrangements that have been agreed upon with the customer. The stores then sell the products to consumers at a higher price in order to make a profit.

Table 1 shows *Kosher Franks*' data on this year's sales revenue and the average annual revenue growth over the last 5 years. The data in Table 1 is broken down by major product category.

Table 1: Recent Revenue and Revenue Growth Data for *Kosher Franks*

	Revenue this year	**Average annual revenue growth over last 5 years**
All beef hot dogs	$366.7m	4.2%
Other packaged meat	$65.3m	1.5%
Sliced meat	$55.3m	1.2%
Other products (e.g., pickles, sauces)	$15.1m	-7.0%

Kosher Franks manufactures all of its own products and invests significantly more resources than its competitors to ensure superior quality. This is especially valuable to them because this type of product has a poor overall reputation for quality in the United States.

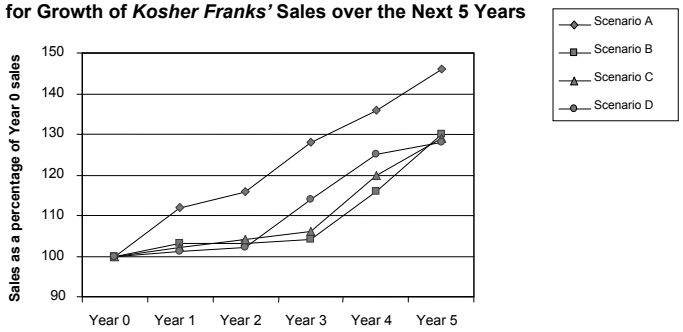
Kosher Franks was founded almost 100 years ago, and until recently, was run as a family business. However, after almost a decade of poor sales growth, the company was acquired last year by a major conglomerate, *FoodInc*, with the goal of increasing sales.

Kosher Franks

The CEO of *Kosher Franks* has asked a McKinsey team to help him identify ways to improve sales growth while maintaining good levels of profitability. He states that a 10% annual sales growth should be the target. In five years time, he wants to be able to look back and see an annual sales growth of 10% or more for each of the previous 2 years, or *Kosher Franks* will no longer be part of *FoodInc*. Exhibit 1 represents four potential scenarios for *Kosher Franks'* future sales growth, with Year 0 representing this year.

Exhibit 1

Scenarios for Growth of *Kosher Franks'* Sales over the Next 5 Years



1. According to the CEO of *Kosher Franks*, which of the scenarios presented in Exhibit 1 would satisfy *FoodInc's* requirements?
   - A) Scenario A
   - B) Scenario B
   - C) Scenario C
   - D) Scenario D

2. Which of the following measures, if done alone, would definitely NOT help address the objectives of the CEO of *Kosher Franks*?
   - A) Lowering the price of select *Kosher Franks'* products
   - B) Introducing new products into the *Kosher Franks'* range
   - C) Removing a category of products from the existing *Kosher Franks'* range
   - D) Increasing the advertising of *Kosher Franks'* products in the mass media

3. Which of the following statements is valid based on the data in Table 1?
   A) Revenue for "Other products" was more than $20 million five years ago
   B) Hot dog revenue was more than $350 million five years ago
   C) Sales of sliced meats grew by no less than 1.2% in each of the last five years
   D) Total sales for *Kosher Franks* did not grow at all in the last five years

4. Which of the following values is the best estimate of *Kosher Franks'* revenue in Year 4 under Scenario C in Exhibit 1?
   A) $441m
   B) $495m
   C) $549m
   D) $603m

The team decides to focus more on the all beef hot dog product category, as it is by far *Kosher Franks'* largest percentage of sales. As part of the work, the team decides it is worthwhile to investigate *Kosher Franks'* current consumer base for this category. This consumer base is thought to consist mainly of Jewish households because the product satisfies their kosher food requirement.

The team decides to investigate the potential impact of different types of marketing efforts on sales of *Kosher Franks'* hot dogs. In particular, the idea of a 5% retail price reduction coupled with mass media advertising of the reduction is suggested, especially for cities known to be more price-sensitive. Los Angeles is an example of one of these cities and the team decides to estimate the potential of this strategy in Los Angeles. The head of sales for *Kosher Franks* gives you the following information:

- The advertising campaign would cost $2.1 million
- *Kosher Franks* has 1 million hot dog purchasers in Los Angeles, who buy one pack of six hot dogs per month on average
- The average price to grocery chains and distributors of a pack of six hot dogs is $10
- The retail price of a pack of six hot dogs is $11
- *Kosher Franks* makes a 20% profit margin on hot dogs
- This campaign will not impact the profit in dollars made by the store per pack of six hot dogs sold

5. Which of the following statements, if true, would best support an argument AGAINST implementing this price reduction campaign in Los Angeles?

   A) Consumers purchase *Kosher Franks'* hot dogs because they believe they taste better than other hot dogs and are made from fresher ingredients

   B) *Kosher Franks* has never used a price reduction marketing strategy on hot dogs in the 100 years of its existence and many of the senior management would feel that such a move would not suit the brand values

   C) All large grocery chains stock one premium, one mid-range, and one economy hot dog product and the 5% reduction would move *Kosher Franks'* hot dogs from premium to mid-range

   D) A similar strategy was attempted for one of *Kosher Franks'* pickles products recently and only resulted in a 2% growth in sales volume, which translated to a 3% reduction in sales revenue

6. What is the average profit, in dollars per hot dog, made by *Kosher Franks* before implementing this campaign?

   A) $0.33

   B) $0.67

   C) $1.67

   D) $2.00

7. *FoodInc* requires all marketing campaigns to pay back the initial investment within the first year. What percentage increase in the number of hot dogs sold would be required in the first year of the Los Angeles price reduction campaign in order to pay back the advertising investment?

   A) 20%

   B) 30%

   C) 40%

   D) 50%

Kosher Franks

The marketing manager of *Kosher Franks* expresses concern about the impact of this price reduction campaign on consumer perceptions of the brand. He states that a price reduction of 5% is pretty significant and may in itself be detrimental to the premium brand image, which drives a lot of sales.

8. Which of the following statements, if true, would best support the marketing manager's assertion?
   - A) In a recent survey, *Kosher Franks'* consumers quoted "price" as the second most important indicator of quality in a list of ten factors
   - B) In a recent survey, *Kosher Franks'* consumers quoted "price" as the eighth most important factor out of ten in their decision to buy a product
   - C) In a recent survey, 78% of *Kosher Franks'* consumers said they would still buy *Kosher Franks'* hot dogs even with a 10% price increase
   - D) In a recent survey, 34% of *Kosher Franks'* customers said they would never consider buying another brand of hot dog

After conducting some analysis, the team compiles overall summary profiles of the hot dog market in two of the cities being studied. These profiles are given in Table 2.

Table 2: Overall Profiles of 2 Cities Being Studied

City 1	**City 2**
Kosher Franks is the dominant brand in the hot dog category (both kosher and overall)	*Kosher Franks* is a strong brand in the kosher hot dog category, but a weak brand in the overall hot dog category
There is high potential to increase loyalty among existing consumers and convert non-kosher hot dog consumers	*Kosher Franks'* hot dogs are priced at a modest premium relative to competitors
Kosher Franks' hot dogs are priced at a high premium relative to competitors	This is a highly price-sensitive market. In particular, non-kosher customers decide almost entirely based on price
There is low price sensitivity with almost no brand switching by consumers	Historically, *Kosher Franks* has a mixed performance on marketing promotions
Historically, *Kosher Franks* has a very strong marketing promotion performance	There is a high potential to acquire new kosher hot dog consumers for the *Kosher Franks'* brand and build loyalty among existing consumers of the brand

9. Which of the following potential strategies would suit NEITHER of the two cities in Table 2?

   A) Build awareness through trials and advertising campaigns on the taste and quality of the *Kosher Franks'* hot dogs

   B) Develop a program that rewards consumers for frequent purchases of *Kosher Franks'* hot dogs

   C) Ask all grocery stores to remove *Kosher Franks'* hot dogs from the kosher food aisles and instead stock them in the packaged meat aisles

   D) Increase the price of *Kosher Franks'* hot dogs by 1% across all grocery stores

Kosher Franks

The marketing and promotions department of *Kosher Franks* in City 2 has traditionally used a combination of mass media (e.g., TV and newspaper) and targeted promotions (e.g., trials and fliers) to drive sales of hot dogs. The head of this department tells you that he does not know which of these methods, if any, are truly effective at driving sales.

10. Which of the following courses of action would you recommend to the marketing and promotions department head of *Kosher Franks* in City 2?
    - A) Spend 6 months of the next year doing only mass media marketing and then another 6 months doing only targeted marketing to determine which is most effective
    - B) Suspend all marketing campaigns for 6 months to determine whether any of the campaigns are significantly contributing to sales
    - C) Increase all types of marketing campaigns slowly, one-by-one, to determine if there is a significant increase in sales driven by a specific campaign
    - D) Decrease each type of marketing campaign slowly one-by-one to determine if there is a significant decrease in sales caused by the removal of a specific campaign

At the end of the project, the team recommends a tailored city-by-city strategy to increase sales. In many cities, an important part of the strategy is to change the positioning of the hot dog brand from a focus on the ethnic community to a more diverse and affluent consumer segment. The CEO is pleased with the plan, but has concerns about the expectations of the new parent company. He states that aggressive sales growth targets are fine for companies well established in the *FoodInc* family, but he hopes the parent company is realistic about a newly acquired company like *Kosher Franks*.

11. Which of the following statements best reflect the concerns of *Kosher Franks*' CEO?

    A) He is concerned that *Kosher Franks* will never be able to achieve the sales growth targets set by *FoodInc* because *Kosher Franks* sells a premium product that can never have a rapid sales growth

    B) He is concerned that *FoodInc* will demand aggressive sales growth targets immediately without taking into account the time needed to make significant changes to *Kosher Franks*

    C) He is concerned that *FoodInc* sets sales growth targets that are too aggressive and not realistic for companies operating in today's competitive food markets

    D) He is concerned that *Kosher Franks* will never fit into the *FoodInc* family because the other *FoodInc* companies have been owned by *FoodInc* for quite some time and are well established

RentEstate

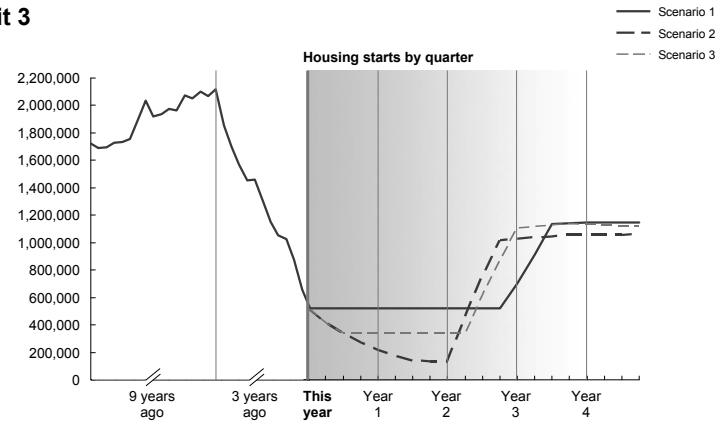
RentEstate is a company that specializes in developing and acquiring high-quality apartment communities in the United States, and renting these apartments to individual renters. This part of the real estate sector is called multi-family real estate (MFR). Historically, *RentEstate* has been very profitable, but in the last 2 years it has seen its profitability decline significantly.

In an initial meeting with the McKinsey team, the CEO of *RentEstate* states, "I clearly believe that *RentEstate's* past formula won't drive future success. Even before the spectacular collapse of the credit market, the entire MFR sector was undergoing changes. Our focus on providing high-quality Class A apartment communities in attractive markets will no longer guarantee continued strong growth."

In the real estate industry, housing is categorized in three different classes, from Class A to Class C. Class A apartments represent the highest quality; these structures are usually less than 10 years old and include a wide range of additional amenities such as a concierge service or swimming pool. Class B apartments have a more relaxed quality standard, with apartments that are slightly older and contain fewer amenities. Class C apartments are considered to be basic habitation.

Exhibit 3 shows projections for the housing 'starts' in the U.S. over the next five years. A housing 'start' is the commencement of construction on a housing unit. The number of housing starts are plotted by quarter each year under three different forecasting scenarios. Vertical dotted lines indicate the first quarter, or Q1, of the year. As a historical benchmark, first quarter housing starts are included for 3 years ago and 9 years ago. Assume that it is currently the first quarter of the year.

Exhibit 3



12. Which of the following statements BEST describes the CEO's aims for the McKinsey study?
    A) The CEO wants to understand changing industry trends and how *RentEstate* needs to adapt to ensure continued growth
    B) The CEO wants to know why the previous success factors are no longer sufficient for *RentEstate* to grow like in the past
    C) The CEO wants to understand if McKinsey would recommend that *RentEstate* provide different quality apartments in other markets
    D) The CEO wants to verify that the outlook for *RentEstate's* current business growth is poor

13. Which of the following would be LEAST helpful for the McKinsey team to analyze with regard to future sources of profit for *RentEstate*?
    A) Future demand growth of *RentEstate's* current apartment portfolio in current markets
    B) Whether or not Class B and C products in the market have generated similar profits to Class A products in the past
    C) Whether or not *RentEstate* would have the capability to move into new segments of the MFR sector
    D) Current *RentEstate* research on what customers like and dislike about the company

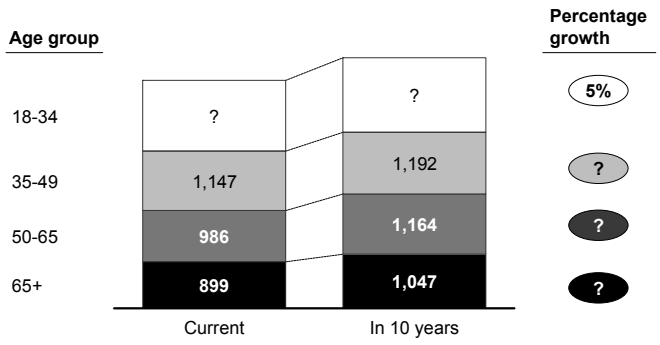
14. Assuming housing starts declined at a constant rate, which of the following is the closest estimate of the annual percentage drop in the number of first quarter housing starts between 3 years ago and this year?
    A) 20%
    B) 25%
    C) 40%
    D) 55%

15. Which of the following statements CANNOT be concluded from Exhibit 3?
    A) Quarterly housing starts will reach 1 million again between Q4 of Year 2 and Q3 of Year 3
    B) More construction projects will be completed in the next 3 years in Scenario 3 than Scenario 2
    C) An earlier recovery of the housing market is forecasted in Scenario 2 than in Scenario 3
    D) Housing starts increased by more than 25% between the first quarter 9 years ago and the first quarter 3 years ago

One potential opportunity the team explores is for *RentEstate* to expand and enter the Class B sector in geographical regions where it is already present, while still maintaining the Class A sector as its core business. To assess the attractiveness of the Class B sector, the team develops a thorough customer segmentation model to identify the needs of potential Class A and Class B customers.

Exhibit 4 shows the 4 age group segments the team identified who are interested in multi-family apartments in the geographical areas where *RentEstate* is already present. Exhibit 4 displays each age group segment's current and forecasted number of households (in thousands). Exhibit 4 only includes households who have the respective minimum income to afford Class A or Class B rents. The percentage on the right-hand side of the exhibit shows the percentage growth of the segment over the next 10 years.

Exhibit 4



16. Assuming the overall *RentEstate* market shown on Exhibit 4 will grow by 10% in the next 10 years, what is the BEST approximation of the size of the 18-34 segment currently?
    A) 1,360 households
    B) 67,800 households
    C) 1.36 million households
    D) 4.42 million households

17. What can you conclude from the information regarding the *RentEstate* market given in Exhibit 4?
    A) There are at least 10% fewer 65+ households than 50-65 households
    B) The 35-49 segment will experience the lowest growth rate in the next 10 years
    C) The number of 65+ households will grow at an average annual rate of more than 2% over the next 10 years
    D) Over the next 10 years, 178,000 new tenants aged 50-65 will take residence in the areas explored

18. Which would be the LEAST relevant question for the team to answer in making a recommendation on whether *RentEstate* should expand into Class B apartments in its current locations?
    A) Would it be possible to reclassify some older Class A apartments as Class B apartments in the future?
    B) Will people who currently rent Class A apartments from *RentEstate* be willing to rent Class B apartments?
    C) Which amenities would Class B customers in the current locations be willing to pay for?
    D) Would there be sufficient demand for Class B apartments in the areas where *RentEstate* is already operating?

Another potential opportunity the team explores is for *RentEstate* to sell real estate as well as rent it.

19. Which of the following facts would be the BEST argument for *RentEstate* to explore a move into real estate sales?
    A) *RentEstate* has a large apartment portfolio, some of which they could choose to sell
    B) *RentEstate* rental agents have a large network of contacts that could provide *RentEstate* with early information on what is for sale
    C) A move into real estate sales will diversify *RentEstate's* product portfolio and hence lead to stronger growth in the future
    D) Most people who rent from *RentEstate* leave their rentals to become first-time homeowners in the same region

Way Forward Greater London Area (WFGLA)

Way Forward (WF) is a non-profit organization that consists of more than 50 local offices in the United Kingdom. *Way Forward Greater London (WFGLA)* is one of these local offices based in the Greater London Area, a metropolitan area surrounding the city of London. Typically the local offices work together with private and social sector organizations to pool efforts in fundraising campaigns. These campaigns typically address pressing community issues, usually around education, income or health. *WF* first seeks to educate the population about these campaigns, then solicits donations.

Currently, there is an economic downturn in the United Kingdom. This presents a challenge for *WFGLA*, because donations are decreasing when community need is at its highest. The President of *WFGLA* has reached out to McKinsey to ask for support. He tells the team: "I need your help on improving our campaign effectiveness, which we define as the number of pounds donated per pound spent on the campaign. We really need to focus on increasing donations in these times!"

A campaign is usually organized by a group of people called a "campaign cabinet". This group includes *WFGLA* staff, as well as volunteers from the general public; the actual campaign work is conducted by volunteers.

20. Given the aims of the President of *WFGLA*, which would be the LEAST relevant question for the team to answer?
    - A) How can *WFGLA* get better at targeting people who are likely to donate?
    - B) How can *WFGLA* engage with people in ways that are more likely to result in donations?
    - C) How can *WFGLA* contact and communicate with their donors in a lower cost way?
    - D) How can *WFGLA* improve the execution of campaigns by the campaign cabinet?

WFGLA

21. Which of the following pieces of information would be LEAST helpful in better understanding the current *WFGLA* situation?

    A) Total amount of donations, in British pounds, collected by other *WF* offices across the U.K.

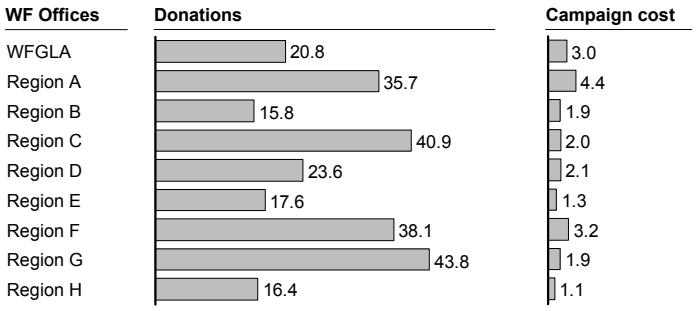
    B) Comparison of donations made to *WFGLA* by one-time donors versus regular donors over the past 5 years

    C) Market research on the public awareness generated by *WFGLA* campaigns over the past 5 years

    D) Comparison of campaign effectiveness with other local *WF* offices

The team gathers more data on *WFGLA* and on other *WF* offices. Exhibit 5 shows the total donations and total campaign costs in million British pounds (£) for various *WF* offices last year.

Exhibit 5



22. How should Regions A to E in Exhibit 5 be ranked according to their campaign effectiveness from highest to lowest?

    A) C, E, D, B, A

    B) C, A, D, E, B

    C) C, E, D, A, B

    D) A, B, D, E, C

23. Assuming *WFGLA* could reach the average campaign effectiveness of all other regions included on Exhibit 5, by what percentage could their current effectiveness be increased?

    A) 81%

    B) 87%

    C) 94%

    D) 101%

One potential opportunity the team explores is a segmentation of potential donors according to the type of work they do, with the aim of taking different fundraising approaches for employees working in different occupations. The team identifies 3 segments of workers:

- Blue Collar: Employees doing mostly manual work
- White Collar: Employees doing mainly office work
- Executive: Employees who mostly have college or advanced degrees, and who typically work as senior managers in business

Exhibit 6 shows the number of employees in thousands in each segment in the Greater London Area. Employees are categorized by the size of the company they work for, as well as their level of contact with *WFGLA* so far, or 'relationship intensity'. The goal is to subsequently increase the relationship intensity for each segment, so that each segment moves closer to the 'frequent contact' group.

Exhibit 6

	Relationship intensity								
	No contact			Little contact			Frequent contact		
	Blue collar	White collar	Executive	Blue collar	White collar	Executive	Blue collar	White collar	Executive
Small	86.1	86.5	45.1	2.1	9.9	5.1	1.4	2.9	2.0
Medium	79.6	99.6	62.0	15.8	23.4	13.7	3.8	3.2	3.4
Large	50.0	137.5	40.0	125.6	318.7	100.4	20.7	14.9	14.1

24. Which is most likely to be TRUE based on the information given on Exhibit 6?
    A) *WFGLA* has had contact with slightly more than 50% of all employees in the Greater London Area
    B) Small companies have received the least attention by *WFGLA* in the past
    C) The biggest proportion of the total amount donated has come from employees with frequent contact
    D) The biggest opportunity to increase donations is to get in touch with those employees who work for large companies *WFGLA* is not in contact with yet

The team explores the donation potential for each of the segments according to the company size. The team concludes that a medium Blue Collar company employee with frequent contact currently donates double the amount of a medium Blue Collar company employee with little contact. They also determine that, if targeted with the right approach, all employees of medium Blue Collar companies would increase their donation by £50 per person per year. This will include employees who do not have any current contact with *WFGLA*, and who do NOT make any donations currently.

25. If *WFGLA* implements the targeted approach, the expected total donation estimate for Blue Collar employees in medium companies will be £6.13 million. What is the current annual donation of a Blue Collar employee with frequent contact in a medium company?
    A) £50
    B) £100
    C) £150
    D) £200

WFGLA

26. In addition to donation potential, which would be the LEAST helpful information to consider when deciding the prioritization of the different employee segments to *WFGLA*?

    A) The amount of disposable income of the various employee segments

    B) The number of volunteer hours to be invested per segment to increase employees' relationship intensity to the next level

    C) The effectiveness of past campaigns with similar employee segments

    D) The additional budget amounts *WFGLA* would need per segment to increase employees' relationship intensity to the next level

Answer Key

Kosher Franks

1. B – Observation of Exhibit 1 shows that Scenario B is the only scenario involving a 10% or greater sales growth for each of the previous two years (Year 3-4 growth is approximately 12 points on a base of approximately 104 = 11.5% growth, while Year 4-5 growth is approximately 14 points on a base of 117 = 11.9% growth).

2. C – From Table 1, there is no single product category that, if removed, would improve annual sales growth to the level of 10% required by the CEO. Options A, B and D all have the possibility of generating additional sales growth.

3. A – Using the information on current revenues and growth rates in Table 1, it can be calculated that this response is the only one that is valid. Since the average revenue grew -7.0% every year, the revenue five years ago was approximately $21.71 million, which is more than $20 million.

4. D – From Table 1, total revenue this year is $502.4m. According to Scenario C in Exhibit 1, Year 4 revenue will represent 120% of this year's revenue. The closest figure to this is $603m.

5. C – Options A, B and D do not provide a direct factual argument against the price reduction campaign for hot dogs. Option C does provide this argument, as it indicates that there is a risk that *Kosher Franks* would lose grocery chain customers because of possible competition in the mid-range category.

6. A – The average profit per pack of hot dogs is $2 (calculated by taking the information presented before question 6 that states that *Kosher Franks* makes a 20% profit margin, and sells a pack of hot dogs to grocery store chains and distributors for $10. 20% of $10 would be a $2 profit per pack). With 6 hot dogs per pack, this translates to an average profit of $0.33 per hot dog.

7. D – Currently a total of 12m packs are sold annually. A 5% retail price reduction means that *Kosher Franks* would lose $0.55 in profit per pack, which comes to a total of $6.6m profit lost on current sales. Therefore, to pay back the advertising investment, *Kosher Franks* would need to sell enough additional packs to obtain $8.7m in profit (which is $6.6m lost profit plus the $2.1m investment). At a new profit of $1.45 per pack, this would require 6m packs of hot dogs, a 50% increase on the 12m currently sold.

8. A – This is the only option which indicates a relationship between the product price and the perception of product quality among *Kosher Franks'* consumers. Thus, this implies that a price reduction could impact consumers' opinion of *Kosher Franks* as a premium brand, which supports the assertion of the marketing manager.

9. C – Options A, B and D each positively address a characteristic of at least one of the two cities. However, Option C would negatively affect the dominance of the product in the kosher category in both cities.

10. D – Options A and B should not be considered as they would risk a severe impact on sales. Option D will certainly help, because if any of the current marketing activities are effective, this will certainly be revealed if a sales drop is noticed following a decrease in a certain marketing activity. It is not clear that Option C would help as current marketing activities may be maximally effective, so an increase in these may have no impact on sales.

11. B – The CEO's comment indicates that he is concerned about the aggressiveness of the sales targets given *Kosher Franks* newly acquired status. The only option reflecting both of these concerns is Option B.

RentEstate

12. A – The CEO stated that "the entire MFR sector was undergoing changes", and "*RentEstate's* past formula won't drive future success". Option A is the only answer that summarizes the CEO's aims to understand these changes and ensure continued growth. The other options provide answers that are either not complete or not fully accurate.

13. D – Information provided from Options A, B and C would all help to assess future growth. However, it is not clear from the information provided how or if Option D would help determine future growth strategies.

14. C – Exhibit 3 shows that housing starts have dropped from approximately 2.1 million starts 3 years ago to about 500,000 this year. A 40% annual decline from 2.1 million, compounded over 3 years is approximately 1,260,000 million 2 years ago, 750,000 1 year ago, and 450,000 this year. This percentage decrease yields an answer closer to the 500,000 starts than any other percentage listed.

Answers

15. B – While options A, C and D can all be determined from Exhibit 3, the exhibit does not state anything about when the specific projects in each scenario are expected to be completed.

16. C – The equation to solve with the information given in the question and Exhibit 4 is: (3,032,000 + x) * 1.1 = 3,403,000 + 1.05x. Solving for x brings you to 1.356 (or 1.36) million households.

17. B – The percentage growth for the 35-49 segment equals 3.9%, which is the lowest of the four segments. Options A is incorrect because there are only about 9% fewer 65+ households than 50-65 households. Option C is incorrect, because the average annual growth rate is less than 2%. Option D is incorrect – the number will be more than 178,000 because some current residents will have moved away during this time period.

18. B – Option A, C and D are all related to additional revenue opportunities for *RentEstate* from moving into Class B. Option B is least relevant to the issue at hand, as *RentEstate* still regards Class A apartments as its core business sector.

19. D – Option D provides an indication of a customer segment where there is demand and where *RentEstate* would have a competitive advantage. Options A through C provide no indication whether such a customer segment might exist and thus no reassurance that such a move into real estate sales might be successful.

WFGLA

20. C – The President's aim is to increase donations. Answer choices A, B and D would help to increase donations. Option C is about targeting donors in a lower cost way, which is not the stated aim of the President, and hence would be the least relevant question for the team to answer.

21. A – The total amount of donations collected by other *WF* offices would be least helpful in and of itself, as different offices will target different population sizes and demographics and direct comparisons would be meaningless. B would help determine which types of donors to focus on. C and D would help determine the effectiveness of current campaigns.

Answers

22. A – Calculating campaign effectiveness (defined earlier in the scenario as pounds donated per campaign pound spent) gives you C = 40.9/2.0 = 20.5, E = 17.6/1.3 = 13.5, D = 23.6/2.1 = 11.2, B = 15.8/1.9 = 8.3, A = 35.7/4.4 = 8.1.

23. B – Calculating the average campaign effectiveness of Region A-H gives you 13.0 (total £ donated/total £ spent). To reach 13.0 *WFGLA*'s current effectiveness level of 6.9 would need to increase by 87% (calculated by 13.0/6.9-1 or (13.0-6.9)/6.9].

24. B – Given that *WFGLA* is in contact with only ~10% of employees in small companies, which is a much smaller proportion than for medium and large companies, this option is the most likely to be true. Exhibit 6 does not represent ALL the employees in the greater London area so Option A cannot be concluded. Nothing is stated about the amount donated by the various segments, so it is not clear whether Option C is true. Option D is not correct because there are more people not contacted in medium-size companies than in large companies.

25. B – The equation to solve is 79,600 * £50 + 15,800 * (£50+x) + 3,800 * (£50 + 2x) = £6.13 million – solving for x gives you £50. However, as the question is how much a **frequent** contact Blue Collar employee is currently donating, this would be 2 * £50, i.e. £100.

26. A – Option A is only relevant in determining donation potential, which is not the topic of the question. Options B and D both refer to the amount of resources required in targeting the employee segments successfully, which would be an important consideration in prioritizing the groups. Option C will give an indication of the probability of success of campaigns with the various segments based on past experience – another useful indicator in prioritizing the segments.