

54. Tanco, a leather manufacturer, uses large quantities of common salt to preserve animal hides. New environmental regulations have significantly increased the cost of disposing of salt water that results from this use, and, in consequence, Tanco is considering a plan to use potassium chloride in place of common salt. Research has shown that Tanco could reprocess the by-product of potassium chloride use to yield a crop fertilizer, leaving a relatively small volume of waste for disposal.

In determining the impact on company profits of using potassium chloride in place of common salt, it would be important for Tanco to research all of the following EXCEPT:

- (A) What difference, if any, is there between the cost of the common salt needed to preserve a given quantity of animal hides and the cost of the potassium chloride needed to preserve the same quantity of hides?
- (B) To what extent is the equipment involved in preserving animal hides using common salt suitable for preserving animal hides using potassium chloride?
- (C) What environmental regulations, if any, constrain the disposal of the waste generated in reprocessing the by-product of potassium chloride?
- (D) How closely does leather that results when common salt is used to preserve hides resemble that which results when potassium chloride is used?
- (E) Are the chemical properties that make potassium chloride an effective means for preserving animal hides the same as those that make common salt an effective means for doing so?

#### Evaluation of a Plan

**Situation** New environmental regulations will increase the costs of disposing of the salt water that results from the use of large amounts of common salt in leather manufacturing. The manufacturer is considering switching from common salt to potassium chloride, because the by-product of the latter could be reprocessed to yield a crop fertilizer, with little waste left over to be disposed.

**Reasoning** *In order to determine whether it would be profitable to switch from using common salt to using potassium chloride, which of the five questions does the manufacturer NOT need to answer?* The chemical properties making potassium chloride an effective means of preserving animal hides might be quite different from those that make common salt effective, but there is no particular reason for thinking that this would impact the profitability of switching to potassium chloride. The relevant effects on the preserved hides might be the same even if the properties that brought about those effects were quite different. Thus, without more information than is provided in the passage, this question is irrelevant.

- A The savings in waste disposal costs that would be gained by switching to potassium chloride could be cancelled out if the cost of potassium chloride needed far exceeded that for common salt.
- B If switching to potassium chloride would force the manufacturer to replace the equipment it uses for preserving hides, then it might be less profitable to switch.
- C Even though there is said to be relatively little waste associated with using potassium chloride in the process, if the costs of this disposal are very high due to environmental regulations, it might be less profitable to switch.
- D If the leather that results from the use of potassium chloride looks substantially different from that which results when common salt has been used, then the leather might be less attractive to consumers, which would adversely affect the economics of switching to potassium chloride.
- E **Correct.** Note that the question as stated here presupposes that potassium chloride and salt are both effective means for preserving animal hides—so it does not raise any issue as to whether potassium chloride is adequately effective or as effective as salt (clearly, an issue of effectiveness would be relevant to profitability).

The correct answer is E.

55. There is a great deal of geographical variation in the frequency of many surgical procedures—up to tenfold variation per hundred thousand people between different areas in the numbers of hysterectomies, prostatectomies, and tonsillectomies.

To support a conclusion that much of the variation is due to unnecessary surgical procedures, it would be most important to establish which of the following?

- (A) A local board of review at each hospital examines the records of every operation to determine whether the surgical procedure was necessary.
- (B) The variation is unrelated to factors (other than the surgical procedures themselves) that influence the incidence of diseases for which surgery might be considered.
- (C) There are several categories of surgical procedure (other than hysterectomies, prostatectomies, and tonsillectomies) that are often performed unnecessarily.
- (D) For certain surgical procedures, it is difficult to determine after the operation whether the procedures were necessary or whether alternative treatment would have succeeded.
- (E) With respect to how often they are performed unnecessarily, hysterectomies, prostatectomies, and tonsillectomies are representative of surgical procedures in general.

#### Argument Construction

**Situation** The frequency of certain surgical procedures, e.g., hysterectomies, prostatectomies, and tonsillectomies, varies dramatically by geographical region. It may be possible to conclude that the disparity is to a large extent the result of the performance of unnecessary surgeries.

**Reasoning** *What additional information must be true for this conclusion to hold?* Is it possible that different factors in different regions might reasonably account for the variation? Diseases or medical conditions for which these surgical procedures are appropriate might be more common in one geographical area than another. Unless the possibility of such geographical variations in the incidence of pertinent medical conditions is ruled out, it would be risky to conclude that the variation is attributable to unnecessary surgical procedures.

- A This statement undermines such a conclusion since it cites a process in place for preventing or reducing unnecessary procedures.
- B **Correct.** This statement suggests the geographical variation is not due to variations in incidence of certain diseases—and by eliminating this possibility, it helps to support the claim that unnecessary surgeries are being performed in some places.
- C The argument is concerned only with hysterectomies, prostatectomies, and tonsillectomies; other surgical procedures are irrelevant.
- D This information indicates that there is a fuzzy line dividing necessary from unnecessary surgeries—but this would apply in every place, not just in some; so it provides no support for the intended conclusion.
- E The argument involves only the three kinds of surgery cited in the passage, so this statement is irrelevant to the conclusion.

The correct answer is B.