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Patient Profile #1

19-year-old male with unremarkable medical history

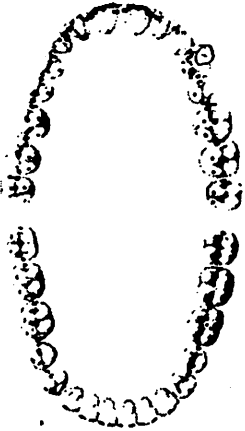
Missing teeth: none

S: broke upper left tooth while chewing ice; moderate throbbing pain that requires analgesic to control

O: no existing restorations or detectable caries lesions; Bu cusp missing from tooth #12, fracture of the facial surface extends to free gingival margin, pulp exposed; Angle Class I occlusion with bilateral canine guidance, no obvious attrition; all sulci are 2-3 mm

A: fractured tooth and irreversible pulpitis #12; localized gingivitis

P: RCT #12; prophylaxis; post/core and PFM crown #12



For each of the following questions, indicate whether the statement is true (A) or false (B).

1. The principle reason for using a post for the restoration of tooth #12 is to help retain the core build-up. **A**
2. Assuming the axial walls of tooth #12 are prepared with a total occlusal convergence of 10-20 degrees, the minimum acceptable length of the crown preparation would be 5-6 mm. **B**
3. During the fabrication of the metal substructure for PFM crown #12 using the lost wax method, most of the negative dimensional change (contraction) would occur as the casting comes to room temperature (freezes) in the investment mold. **A**
4. Considering all the steps in the process of making a PFM crown for tooth #12, the first important quality control evaluation would occur when the raw metal casting is inspected on the stone die. **B**
5. A component that the polycarboxylate and glass ionomer cements have in common is polyacrylic acid. **B** *acid activated?*
6. Cements that set by a polymerization reaction would be contraindicated for the installation of the cast post/core. **B**
7. If the patient's natural teeth exhibit shades in the VITA C family, their hue may correctly be described as "reddish-brown". **B**

A - brown
B - orange
C - grey
D - pink

For each of the following questions, choose one of these responses:

A= The STATEMENT is true and the REASON is true

B= The STATEMENT is true, but the REASON is false

C= The STATEMENT is false

8. STATEMENT: The absence of detectable caries lesions does not necessarily prove the patient has low caries risk. **T**
REASON: Active white-spot caries lesions of proximal surfaces cannot be detected with conventional radiography. **A**
9. STATEMENT: The PFM crown for tooth #12 should be designed so that a marginal seal (ferrule) exists on tooth structure apical to the margin of the core build-up. **T**
REASON: The direct fabrication technique for a cast post/core using Duralay routinely produces marginal gaps that are equal to those produced using the lost wax method. **F**
10. STATEMENT: The extent of the fracture of tooth #12 indicates that surgical crown-lengthening is required. **F**
REASON: The existing gingival architecture would not permit an adequate ferrule for the PFM crown. **F**
11. STATEMENT: Die relief should be used on the stone die for crown #12 before applying separating agent (die lube). **A**
REASON: Die relief creates a minute space for luting cement, which permits optimal seating of the crown during final installation.
12. STATEMENT: Full-arch casts may be mounted on a semi-adjustable articulator by "hand articulation" to fabricate the crown for tooth #12. **A**
REASON: A tripod of vertical stops and horizontal stability exist in this case.
13. STATEMENT: When choosing the porcelain shades for crown #12, it would be useful to drape the patient's neck with a medium blue napkin. **A**
REASON: Gazing occasionally at a blue background improves the visual response to the complementary orange/yellow tones typically found in teeth.
14. STATEMENT: A "triple tray" would be useful for the final impression of tooth #12. **B**
REASON: Casts produced from triple tray impressions usually permit the most accurate simulation of lateral excursive movements on an articulator. **F**
15. STATEMENT: Choosing a self-adhesive resin cement for crown #12 instead of a traditional composite resin cement would assure greater longevity of the restoration. **C**
REASON: The new self-adhesive resin cements have eliminated the etch-rinse-blot step and do not require the application of a separate bonding agent.
16. STATEMENT: Zinc phosphate cement would be useful for the final installation of the PFM crown. **B**
REASON: Zinc phosphate cement exhibits an adhesive bond to enamel and dentin.

(2)

Patient Profile #2

24-year-old female in excellent overall health

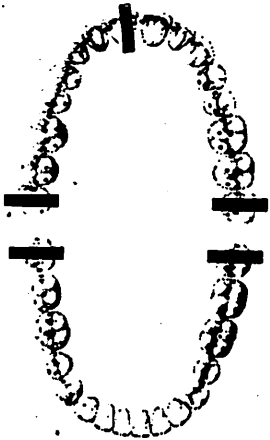
Missing teeth: 1, 8, 16, 17, 32

S: complains of an unattractive 2 year-old 3-unit PFM FPD in the maxillary anterior area and puffy gums.

O: few posterior resin-based composite restorations in good condition; no apparent caries lesions; FPD units grossly over-contoured facially and lingually (bulbous); abutment crown margins located 3 mm below the free gingival margin; bleeding upon probing around the abutment crowns; class 1 mobility of teeth #7 and #9

A: localized gingivitis, severe around #7 and #9, primary occlusal trauma

P: prophylaxis; new FPD



For each of the following questions, indicate whether the statement is true (A) or false (B).

17. The mobility of the FPD abutments is most likely the direct result of bone loss due to chronic periodontitis. **B**

18. Once the existing FPD is removed and a provisional bridge is placed, the final impression for the new FPD should be delayed several weeks, and possibly much longer. **A**

19. If the margins of the existing abutment crowns #7 and #9 extend into the biologic width, gingivoplasty would be the treatment of choice prior to finalizing the preparations for new crowns. **B**

20. The best approach to prepare this patient for a final impression for the new FPD is to infuse chronically inflamed and ulcerated crevicular epithelium with an astringent. **B**

21. Viscostat, an astringent, is a 20% solution of ferric sulfate. **A**

22. A major benefit of replacing the PFM FPD with an all-ceramic prosthesis is that no additional tooth structure would have to be removed. **B**

23. If color correction of a new PFM FPD is required, increasing the value of the shade is a change that can easily be achieved with a porcelain staining kit. **B** lightening?

For each of the following questions, choose one of these responses:

A= The STATEMENT is true and the REASON is true

B= The STATEMENT is true, but the REASON is false

C= The STATEMENT is false

24. STATEMENT: The occlusal trauma is probably directly related to the shape of the prosthesis. **T**

A REASON: Excessive lingual contour commonly results in premature contacts (interferences) in centric occlusion and during mandibular movements.

25. STATEMENT: A possible contributing factor for this patient's gingival disease is violation of the biologic width. **T**

A REASON: Crown margins placed into the zone of the gingival attachment produce an inflammatory reaction.

26. STATEMENT: The poor contour of the existing FPD indicates that the axial surfaces of the abutment teeth were excessively reduced prior to impression-making.

C REASON: Tooth preparations for PFM crowns usually require 1.2 to 1.5 mm of axial reduction.

27. STATEMENT: A custom incisal guide table should be constructed from the pre-operative maxillary and mandibular study casts mounted on a semi-adjustable articulator.

C REASON: A custom incisal guide table allows a lab technician to establish functional lingual contours and incisal guidance in the prosthesis.

28. STATEMENT: When designing the new FPD, it would be desirable to cover the entire lingual fossa and cingulum of the three units with porcelain.

C REASON: A glazed ceramic surface resists plaque accumulation and feels natural to the tongue.

29. STATEMENT: If the (one-piece) metal substructure for the new FPD exhibits a slight anterior-posterior "rock", a solder index should be made.

A REASON: Sectioning and soldering the metal substructure can correct a misalignment problem that may exist between the two abutment crowns.

30. STATEMENT: When choosing the porcelain shades for the new FPD, it is useful to view the natural teeth and shade guides in different light sources.

A REASON: Metamerism may affect the esthetic outcome of the treatment.

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Patient Profile #3

44-year-old female, hypertension controlled by medication

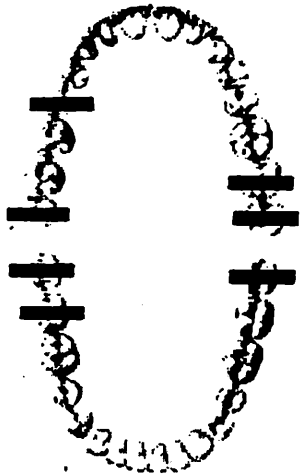
Missing teeth: #1, 4, 15, 16, 17, 31, 32

S: would like to replace missing upper right tooth

O: numerous amalgam and RBC restorations, some failing; several new caries lesions, including recurrent; few periodontal pocket measurements of 4-5 mm, mainly molar regions; moderate wear of all cusps and incisal edges

A: dental caries; defective restorations; missing teeth; localized mild chronic periodontitis; bruxism

P: scaling and root planing; replace several direct restorations; 3-unit PFM bridge #3-5;



For each of the following questions, indicate whether the statement is true (A) or false (B).

31. The ability to cut and rejoin segments of a metal FPD substructure by soldering represents an advantage of the PFM technique over all-ceramic technology. **A**
32. A potential source of error in the solder indexing process for the metal substructure of the 3-unit fixed prosthesis is distortion of the Duralay material due to polymerization shrinkage. **A**
33. If posterior segmental occlusal registrations were to be used during the fabrication of the FPD #3-5 to help mount the mandibular cast against the maxillary master cast on an articulator, a soft pliable material such as red utility wax would be best in the right posterior area. **B**
34. One benefit of placing the margins of abutment crowns #3 and #5 at least 1 mm into the gingival crevice would be a significant reduction in the risk of secondary caries. **B**
35. A metal collar at the margins of each bridge abutment crown would contribute to the durability of the prosthesis by stiffening the substructure and supporting the porcelain. **A**

For each of the following questions, choose one of these responses:

A= The STATEMENT is true and the REASON is true

B= The STATEMENT is true, but the REASON is false

C= The STATEMENT is false

36. STATEMENT: Since the patient's permanent dentition is fully developed, she would experience neither an appreciable benefit nor an appreciable risk from fluoride in drinking water. **C**
REASON: The cariostatic effects of fluoride are primarily derived from topical exposure.

37. STATEMENT: All teeth with radiographic E1 and E2 caries lesions of proximal surfaces should be managed medically, at least initially. **B**
REASON: The probability of surface cavitation of E1 and E2 lesions is about 50%, as determined by Pitts and Rimmer.

38. STATEMENT: Some smooth surface caries lesions that exhibit cavitation of the enamel should be managed conservatively with fluoride varnish. **C**
REASON: For many dental patients a minimally invasive treatment approach reduces morbidity (loss of form, function, comfort, etc.) over a lifetime.

39. STATEMENT: When using the VITA guide to determine porcelain shades for the FPD #3-5, one should choose the predominant hue by studying the cervical third of the neighboring teeth. **A**
REASON: Natural teeth typically exhibit the highest chroma and the lowest value in the cervical third.

40. STATEMENT: If full-arch casts were mounted on a semi-adjustable articulator to fabricate the FPD #3-5, they could be mounted accurately in MIP by "hand articulation". **C**
REASON: A tripod of stable centric contacts exists in this case.

41. STATEMENT: It would be medically and ethically appropriate to delay prosthodontic treatment for this patient until disease prevention measures are instituted. **A**
REASON: The patient exhibits evidence of high caries risk, which means the longevity of the new prosthesis, as well as the other restorations, could be adversely affected.

42. STATEMENT: A PFM fixed prosthesis with static occlusal contacts on metal would have some significant benefits, and this option should be discussed with the patient. **B**
REASON: Porcelain over metal, instead of metal alone, requires the removal of more tooth structure. **2**

43. STATEMENT: Assuming abutment crown #3 seats accurately in the patient's mouth during the initial metal try-in, but crown #5 does not, a good option is to make a new impression of tooth #5 with the satisfactory metal casting for #3 seated on the tooth. **A**
REASON: A "pick-up" impression would permit the new wax pattern for #5 to be aligned with the existing casting for #3 on a new master cast.

Patient Profile #4

57-year-old insulin-dependant male

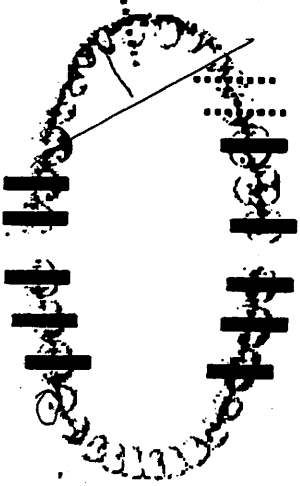
Missing teeth: #1, 2, 14, 16, 17, 18, 19, 30, 31, 32

S: broken front tooth; painful teeth upper left side; all missing teeth lost 10+ years ago; never wore a dental prosthesis

O: Tooth #8 fractured off below the gingival margin, PA radiolucency; Teeth #12 & 13 have large (D3) caries lesions that have invaded the biologic width; the buccal cusp of tooth #29 is missing (fractured off); several other teeth have E2/D1 lesions; few areas of alveolar bone loss 1-3 mm

A: dental caries; dental fractures; localized mild chronic periodontitis; partial dentition

P: extractions; scaling and root planing; restoration of individual teeth; PFM crown #29; replacement of one or more missing teeth



For each of the following questions, indicate whether the statement is true (A) or false (B).

44. Elimination of the active caries lesions by restoring the affected teeth will lower his caries risk to a safe level.

B

45. If a total-etch adhesive system were used according to the manufacturer's instructions in the restoration of his carious teeth, a collagen-resin hybrid layer would be produced that would contribute significantly to the dentin bond. Self etch?

A

46. Assuming a maxillary RPD with an entirely cast metal framework is made to replace teeth #s 8, 12, 13 and 14, there should be no fewer than 3 and no more than 4 direct retainers.

B

47. If a mandibular RPD were to be fabricated, the primary reason for making a functional impression of the posterior ridges for the altered cast procedure would be to create a denture base that distributes occlusal forces to the bearing tissue in the most favorable way.

A

48. If teeth #s 8, 12 and 13 were to be extracted and a RPD recommended for the maxillary arch, replacing tooth #8 with a crown on an implant might have significant advantages.

A

49. If teeth #s 12 and 13 were to be extracted, any reasonable fixed prosthodontic option for the maxillary left quadrant would require implants.

A

For each of the following questions, choose one of these responses:

A= The STATEMENT is true and the REASON is true

B= The STATEMENT is true, but the REASON is false

C= The STATEMENT is false

50. STATEMENT: If a conventional mandibular RPD is made to replace the missing mandibular posterior teeth, irreversible hydrocolloid (alginate) would be an acceptable material to make an impression for the fabrication of the cast metal framework. REASON: Alginate is an accurate impression material as long as the cast is poured promptly.

A

51. STATEMENT: Failing to tolerate and wear the prosthesis is a potential outcome, and cause of failure, if a conventional mandibular RPD were to be provided for this patient. REASON: Studies of masticatory ability reveal that most people who are missing their molars usually complain that they have a great deal of trouble chewing their food.

B

52. STATEMENT: A reasonable treatment option would be to fabricate a maxillary RPD and to maintain all of the remaining mandibular teeth without replacing the missing molars. REASON: The professional consensus reported in the literature is that patients with about 20 teeth (natural and prosthetic), including several pairs of occluding posterior teeth, usually report satisfactory chewing ability and trouble-free eating.

A

53. STATEMENT: If a conventional clasp-retained mandibular RPD were planned for this patient, a "triple-tray" impression procedure would be an excellent option for creating a master cast and die for tooth #29.

C

REASON: For single crowns, a triple tray impression creates a very accurate inter-occlusal relationship between the tooth prepared for the crown and the opposing teeth.

54. STATEMENT: If a maxillary RPD were made for this patient, he would benefit from being recalled for examination at shorter intervals than other patients who do not have prostheses.

A

REASON: The findings of available clinical studies suggest that wearing conventional RPDs is associated with an increased risk of developing caries lesions and losing residual ridge bone.

55. STATEMENT: If the fracture of tooth #8 extends to the alveolar crest, crown-lengthening surgery is indicated.

A

REASON: Margins of restorations placed within the biologic width act as foreign bodies that prevent normal healing of the gingival attachment.

56. STATEMENT: Over-eruption of teeth may be a possible complication in the prosthodontic treatment of this patient. REASON: Clinical studies have consistently proven that molars that lose their antagonists in the opposite arch will over-erupt at a predictable and consistent rate.

B

Patient Profile #5

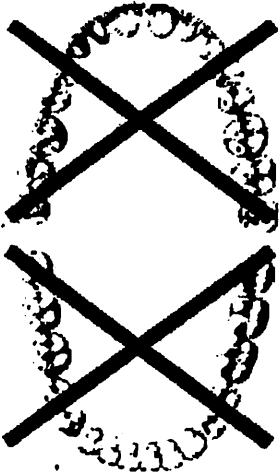
68-year-old male, hypertension and high cholesterol managed with medication; totally edentulous

S: loose dentures with worn and broken teeth, 15+ years old; lower denture a little sore; patient had at least one previous set of complete dentures in last 30 years

O: atrophic mandibular ridge; 2 small red/white lesions in the mandibular vestibule; diffuse red papillary lesion of the hard palate

A: mild inflammatory papillary hyperplasia; traumatic ulcers; defective complete prostheses

P: new complete dentures



For each of the following questions, indicate whether the statement is true (A) or false (B).

- B 57. This patient exhibits signs of "combination syndrome".
- A 58. The "sore" spots (traumatic ulcers) may be caused by instability due to poor denture base support or improper occlusion.
- A 59. The etiology of the residual ridge resorption is probably multifactorial, but little is known about which factors are dominant.
- B 60. A probable contributing factor to this patient's mandibular ridge resorption is his sex, because men have a significantly higher rate of alveolar bone loss under removable dentures than women.
- B 61. Research that attempts to gauge acceptance of treatment outcomes indicates that elderly experienced denture wearers are less likely to accept functional limitations from their dental prostheses compared to younger first-time denture wearers.
- B 62. When evaluating the trial wax dentures, the vertical dimension of occlusion should be verified by observing the closest speaking space, which is exhibited when the patient produces "mmm" or humming sounds.
- A 63. The primary reason for observing "F" and "V" sounds during the complete denture wax try-in visit would be to help evaluate the position of the maxillary incisal edges.
- A 64. Establishing balanced occlusion (bilateral contacts in lateral excursion, posterior contact in protrusion) is recommended to provide optimal stability of the new dentures.

For each of the following questions, choose one of these responses:

A= The STATEMENT is true and the REASON is true

B= The STATEMENT is true, but the REASON is false

C= The STATEMENT is false

- B 65. STATEMENT: The stomatitis observed in the palatal area must be resolved before fabricating the new denture.
REASON: Inflammatory hyperplasia is a very painful condition, and it would persist under the new denture.
- A 66. STATEMENT: The stomatitis should be managed, in part, by promoting effective oral hygiene and thorough cleaning of the present denture.
REASON: Microorganisms have been implicated in the etiology of the disease.
- A 67. STATEMENT: Prior to making preliminary impressions for new dentures, a series of soft liners may be used in the existing maxillary denture.
REASON: Mechanical irritation from the ill-fitting denture is a likely contributing factor to the inflammatory hyperplasia.
- C 68. STATEMENT: The posterior border of the new maxillary complete denture should end on the hard palate.
REASON: Retention of the complete denture is dependent on a firm peripheral seal that prevents air leakage under the base.
- A 69. STATEMENT: If properly designed, the new dentures should provide a vertical dimension of occlusion that is a few millimeters less than the vertical dimension at rest.
REASON: Periods of mandibular relaxation remove the occlusal load from the residual ridges and may help reduce the rate of bone resorption.
- A 70. STATEMENT: Prior to border molding, the peripheral flanges of the custom edentulous impression trays must be assessed in the mouth by activating the surrounding musculature and inspecting for proper relief.
REASON: Casts fabricated from preliminary alginate impressions are usually overextended in the vestibular folds.
- C 71. STATEMENT: When modifying the maxillary master cast for the posterior palatal seal, the deepest penetration will be made immediately posterior to the tuberosities.
REASON: The most depressible soft tissue along the posterior border of the maxillary denture is located in the hamular notches.
- C 72. STATEMENT: When making the initial centric relation record with softened Aluwax, the patient should close until the wax occlusion rims come into full contact.
REASON: Returning to the established vertical dimension of occlusion ensures that the mandible will follow its normal path of closure.
- C 73. STATEMENT: Replacing the dentures is likely to markedly improve this patient's diet and nutrition.
REASON: The masticatory performance of a patient who wears high quality conventional complete dentures is about 90% of the performance of a young dentate individual.

Patient Profile #6

61-year-old female

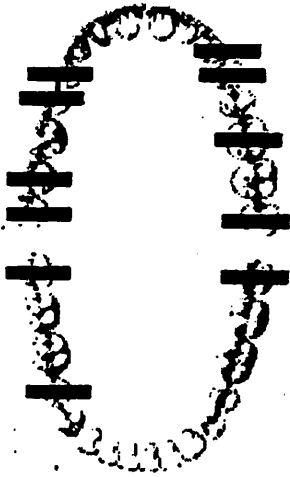
Missing teeth: #1, 2, 4, 5, 11, 12, 14, 16, 17, 28, 32

S: Sales clerk at local department store complains of loose upper front teeth with spaces that have gotten larger recently; old upper plate (RPD) doesn't fit; mouth odor; tooth #29 extracted 30 years ago

O: 6-8 mm periodontal pockets around all remaining maxillary teeth with Class 2-3 mobility; 3-5 mm periodontal probing depths in the mandible; no detectable caries lesions; mesio-angular tipping of #30 and #31

A: severe chronic periodontitis of the maxilla; mild chronic periodontitis of the mandible; defective maxillary prosthesis; malocclusion

P: extractions; scaling and root planing; maxillary removable prosthesis



For each of the following questions, indicate whether the statement is true (A) or false (B).

74. It is likely that the patient's removable partial denture caused the bone loss and mobility of the abutment teeth.

75. If all the remaining maxillary teeth were extracted, post-surgical bone remodeling would be complete and a stable ridge contour would be achieved in 2-3 months.

76. If serial extractions are accomplished in two phases prior to delivery of an immediate maxillary denture, the waiting period after the initial surgical appointment should be 10-12 weeks.

77. If the "combination" impression method were used during the fabrication of an immediate maxillary complete denture, a stock metal tray could be used with alginate for the second impression.

78. A traditional (single tray) immediate denture impression could be made with an elastomeric material, such as polysulfide or polyvinylsiloxane.

79. The major advantage of choosing an immediate maxillary denture instead of a conventional complete denture would be more predictable anterior esthetics of the new prosthesis.

RDV FINAL Dec 8, 2009 ⑥

For each of the following questions, choose one of these responses:

A= The STATEMENT is true and the REASON is true

B= The STATEMENT is true, but the REASON is false

C= The STATEMENT is false

80. STATEMENT: Even if teeth #6-10 were extracted, the best prosthodontic option for the maxillary arch would be to retain teeth #3, 13 and 15 as abutments for a conventional RPD.

REASON: Surveys of complete denture wearers typically reveal a very low level of satisfaction with their maxillary prostheses.

81. STATEMENT: This patient is a good candidate for a maxillary overdenture, fabricated over 4 retained endodontically treated roots.

REASON: Retaining roots helps preserve alveolar bone.

82. STATEMENT: If the patient requests an immediate maxillary complete denture, a sensible option would be to extract teeth #s 3, 13 and 15 immediately, and then extract teeth #s 6, 7, 8, 9, and 10 when the denture is inserted.

REASON: Removing the posterior teeth would permit a wax try-in of the posterior denture tooth set-up to confirm the accuracy of the initial centric relation record.

83. STATEMENT: The overall costs of an immediate denture would be less than a conventional denture.

REASON: An immediate denture requires fewer office visits for construction and maintenance.

84. STATEMENT: A surgical template would facilitate the delivery of an immediate maxillary complete denture.

REASON: Soft and hard tissue shaping (following extraction of teeth) to accommodate the new denture base is a necessary part of the surgical treatment.

85. STATEMENT: After accepting delivery of an immediate denture, the patient must wear the prosthesis continually for the first 24 hours.

REASON: Swelling of the surgical site must be contained or else reinsertion of the denture would be problematic.

86. STATEMENT: If a maxillary complete denture were to be fabricated, a clinical remount at the first follow-up visit would be beneficial.

REASON: Occlusal interferences would be likely in this case due to irregularities in the mandibular occlusal plane.

87. STATEMENT: My New Year's resolution is to exercise regularly and faithfully attend every class session for Rest Dent 6.

REASON: When it comes to body and mind, hard work is usually rewarded.

EXTRA CREDIT QUESTION (Write your answer on the back of the computer answer sheet near your signature.)

Of all the 16 shade tabs in the standard VITA shade guide, which one has the highest value?

10A3
shades tab

BEST WISHES FOR A RESTFUL HOLIDAY

lightest A1