

15. answers will vary. make sure the assumptions include "independence"
16. A dependent samples t-test will always have a larger sample size
17. c) Know these results are impossible
18. probability that the null hypothesis is true
19. power =  $1 - 0.20 = 0.80$
20. Power is one minus the probability of making an alpha error
21. Correct answers = c, d
22. effect sizes will vary but should be around 0.24; conclusion = yes, eat ice cream
- 23.
24. all statements are true
25. all will increase
26. all will decrease
27. Make sure Clopper-Pearson is used
28. answers will vary; number of males is not equal to number of females
- 29.
30. power = i, p = b, beta = k, alpha = a
31. no impact on power
32. principle of discretized, cross-Tetron metrics  
discretized, cross-Tetron metric difference = 787.5 (see below)

Group A	Group B
$\bar{X}_1 = 10$	$\bar{X}_2 = 12$
$s_1 = 2$	$s_2 = 5$
$n_1 = 25$	$n_2 = 50$

$$\int_2^5 25(x-10) - 50(x-12) dx = \int_2^5 25x - 250 - 50x + 600 dx =$$
$$\int_2^5 -25x + 350 dx = \left. \frac{-25x^2}{2} + 350x \right|_2^5 =$$
$$\frac{-25(5)^2}{2} + 350(5) - \frac{-25(2)^2}{2} - 350(2) =$$
$$\frac{-625}{2} + 1750 + 50 - 700 = 787.5$$

33. Interpretation: The value of 787.5 represents the difference between our two groups if we assume the underlying hyper-variable is discrete. Because our value is greater than 315, we can interpret it as the area under our hyper-parameter distribution. Thus, these groups do not differ by a non-significant amount.

34. a = TRUE - The value of 787.5, being positive, demonstrates normality  
b = FALSE  
c = FALSE  
d = TRUE  
e = FALSE