EPPS 2302 : Practice Problems for Exam2

You already have some practice problems.
Examples in the slide(Important), and **previous quizzes**(Important).
If you can solve(NOT JUST READ) them without solutions, and understand them(AGAIN, NOT JUST READ) and interpret **all tables** in the slides, you may not need more practice problems. That's enough for the computation part. AGAIN, YOU NEED STUDY THEM, FIRST.
But, just in case, I add some more(ADDITIONAL problems).
The problems are just practice. Don't expect the same questions or exactly same types

Problems

1) If we have a sample of 12 drawn from a normal population, then we would use as our test statistic
A) t with 11 degrees of freedom B) z with 11 degrees of freedom
C) t with 12 degrees of freedom D) z with 12 degrees of freedom

A

2) Determine the critical value for a left-tailed test of a population standard deviation for a sample of size n = 21 at the $\alpha = 0.05$ level of significance.
A) 10.851 B) 11.591 C) 31.41 D) 32.671

A

3) Determine the test score z for the following situation:
H0: $\mu_p = 0.23$ versus H1: $\mu_p \neq 0.23$; n = 200 ; x = 52

1.01

4) Find the test statistic, t, for the following situation (assume the populations are normally):
Claim: $\mu_1 \neq \mu_2$;
$\bar{x_1} = 17.1, \bar{x_2} = 19.6$, s1 = 2.3, n1 = 16, s2 = 1.8, n2 = 12

t = -3.226

5) Find test score t, to test the hypothesis that $\mu_1 = \mu_2$. Two samples are randomly selectedand come from populations that are normal. The sample statistics are given below. n1 = 25, n2 = 30
$\bar{x_1} = 16$, $\bar{x_2} = 14$
s1 = 1.5, s2 = 1.9

4.361

6)

Problems continued on next page...

Find the standard error of estimate, s_e, for the data below, given that $\hat{y} = 2x + 1$.

x	1	2	3	4
y	3	5	7	9

0

7) Twelve nursing students are set to graduate and the registration clerk at the nursing school wonders if there is a correlation between a studentÊźs age, their GPA and their state board score. She collects data about the 12 students and determines the regression equation to be
State Board = 255 + 12.7 Age + 4.6 GPA.
What would she expect a 27 year-old student with a GPA of 2.6 to achieve on the state board examination?

610

8) Find slope coefficient and test score for it.

$H_0: \beta_1 = 0$ versus $H_1: \beta_1 \neq 0$.

$s_e = 1.33$, $s_{b_1} = 0.0343$

x	65	70	75	80	85	90	95	100	105
y	8	10	11	13	12	16	19	22	23

b1 = 0.383, t=11.166

9) Find the test score to test the independence between variables

	Favorite Pastime		
Gender	Reading	TV	Music
Male	12	32	19
Female	10	20	17

E : 12.6, 29.78, 20.62, 9.4, 22.22, 15.38
0.752

Problems continued on next page. . .

10) Fill the blanks

```
oneway a g, tab
```

```
           |            Summary of a
         g |        Mean   Std. Dev.       Freq.
-----------+------------------------------------
         a |          45           5           3
         b |          55           5           3
         c |          65           5           3
-----------+------------------------------------
     Total |          55   9.6824584           9

                      Analysis of Variance
   Source              SS         df      MS            F     Prob > F
------------------------------------------------------------------------
Between groups             600  ((1)?)          300     ((3)?)     0.0080
 Within groups             150  ((2)?)           25
------------------------------------------------------------------------
   Total                   750      8        93.75
```

2,6, 12

11) Fill the blanks

```
 reg y1 x1
```

```
      Source |       SS       df       MS              Number of obs =       6
-------------+------------------------------           F(((1)?),(2)?) =   71.70
       Model |  22.1004566         22.1004566           Prob > F      =  0.0011
    Residual |  1.23287671         .308219178           R-squared     =  ((4)? )
-------------+------------------------------           Adj R-squared =  0.9340
       Total | ( (3) ?   )     5  4.66666667           Root MSE      =  .55517

------------------------------------------------------------------------------
          y1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          x1 |   .6027397   .0711802   ((5)? )  0.001     .4051119    .8003676
       _cons |   .8219178    .373272     2.20   0.092    -.2144513    1.858287
------------------------------------------------------------------------------
```

1, 4,23.3333333, 0.9472, 8.47

12) Fill the blanks

```
 regress api00 mealcat1 mealcat2 mealcat3
note: mealcat2 omitted because of ((1) ? )
```

```
      Source |       SS       df       MS              Number of obs =     400
-------------+------------------------------           F(  2,   397) =  ((2)?   )
       Model |  6094197.67     2  3047098.83           Prob > F      =  0.0000
    Residual |  1979474.33   397  4986.08143           R-squared     =  0.7548
-------------+------------------------------           Adj R-squared =  0.7536
       Total |     8073672   399  20234.7669           Root MSE      =  70.612

------------------------------------------------------------------------------
       api00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    mealcat1 |   166.3236   8.708331    19.10   0.000     149.2034    183.4438
    mealcat2 |          0  (omitted)
    mealcat3 |  -135.0144    8.61209   -15.68   0.000    -151.9454   -118.0834
       _cons |   639.3939   6.146002   104.03   0.000     627.3112    651.4767
------------------------------------------------------------------------------
```

collinearity, 611.12