MATH 1314 - COLLEGE ALGEBRA

Practice Final Exam

1. If the equation $x^2 - y = 7$ describes an one-to-one function find an equation of the inverse function.

   A. Not an one-to-one function

   B. $y = x + 7$

   C. $y = x^2 + 7$

   D. $y = x^2 - 7$

   Go to answer 1

2. Solve the equation

$$2^{7-3x} = \frac{1}{4}$$

   A. $\{-3\}$

   B. $\{\frac{1}{2}\}$

   C. $\{1\}$

   D. $\{3\}$

   Go to answer 2

3. Find the required annual interest rate, to the nearest tenth of a percent, for $\$\,13,696$ to grow to $\$\,19,026$ if interest is compounded semiannually for 10 years.

   A. $1.7\,\%$

   B. $5.0\,\%$

   C. $3.3\,\%$

   D. $6.6\,\%$

   Go to answer 3

4. Convert $\log_{\sqrt{7}} 343 = 6$ to exponential form.

   A. $7^{343} = 3$

   B. $3^7 = 343$

   C. $7^3 = 343$

   D. $343^3 = 7$

   Go to answer 4

5. Solve the equation $\log_x(\frac{1}{25}) = -2$

   A. $\{-5\}$

   B. $\{-\frac{1}{5}\}$

   C. $\{\frac{1}{5}\}$

   D. $\{5\}$

   Go to answer 5

6. Write the expression as a single logarithm with coefficient of 1. Assume that all variables represent positive real numbers.

$$2\log_4(3x-4) + 4\log_4(6x-5)$$

   A. $\log_4((3x-4)^2(6x-5)^4)$

   B. $8\log_4(3x-4)(6x-5)$

   C. $\log_4 \frac{(3x-4)^2}{(6x-5)^4}$

   D. $\log_4((3x-4)^2 + (6x-5)^4)$

   Go to answer 6

7. Solve the equation $P - P_0 = (P_1 - P_0)10^{-kt}$ for the variable t

   A. $t = \frac{P-P_0}{k(P_1-P_0)}$

   B. $t = -\frac{1}{k}\log\frac{P-P_0}{P_1-P_0}$

   C. $t = -\frac{1}{k}\log\frac{P}{P_1}$

   D. $-\frac{1}{k}\log(P - P_1)$

   Go to answer 7

8. Urn A has balls numbered 1 through 6. Urn B has balls numbered 1 through 3. What is the probability that a 4 is drawn from A followed by a 2 from B?

   A. $\frac{1}{3}$

   B. $\frac{1}{2}$

   C. $\frac{1}{18}$

   D. $\frac{1}{9}$

   Go to answer 8

9. Suppose a family has 5 children. Also, suppose that the probability of having a girl is $\frac{1}{2}$. What is the probability of having at least four girls?

   A. 0.1563

   B. 0.3125

   C. 0.1875

   D. 0.0313

   Go to answer 9

10. Find the sum for the geometric sequence $\Sigma_{i=1}^{5} 3(2)^i$

    A. 22

    B. 42

    C. 186

    D. 255

    Go to answer 10

11. Write the 5th term of the binomial expansion of $(3x + 3)^5$.

    A. 1215

    B. $1215x$

    C. $405x$

    D. $1215x^2$

    Go to answer 11

12. One digit from the number $5,212,442$ is written on each of seven cards. What is the probability of drawing a card that shows $5, 2$, or 1?.

    A. $\frac{2}{7}$

    B. $\frac{4}{7}$

    C. $\frac{5}{7}$

    D. $\frac{3}{7}$

    Go to answer 12

13. Solve the system

$$\begin{array}{rcrcrcl} x & - & y & + & z & = & 2 \\ x & + & y & + & z & = & 10 \\ x & + & y & - & z & = & 6 \end{array}$$

for the variable x.

A. $\{4\}$

B. $\emptyset$

C. $\{2\}$

D. $\{1\}$

Go to answer 13

14. Solve the system. If the system has infinite solutions give the dependent equations.

$$\begin{array}{rcrcrcl} 3x & + & 2y & + & z & = & 4 \\ 2x & - & 3y & - & z & = & 5 \\ 5x & + & 12y & + & 5z & = & 2 \end{array}$$

A. $\{(t, -5t + 9, -13t + 22)\}$

B. $\{(t, 5t - 9, -13t + 22)\}$

C. $\{(t, -5t - 9, -13t + 22)\}$

D. $\{(t, 5t + 9, -13t + 22)\}$

Go to answer 14

15. Solve the equation

$$\det \begin{pmatrix} x & 0 & 0 \\ 6 & x & 1 \\ 2 & 2 & 1 \end{pmatrix} = -3$$

A. $\{1\}$

B. $\{3\}$

C. $\{\emptyset\}$

D. $\{-1\}$

Go to answer 15

ANSWERS

1. Answer to Question 1 is "A".

   Go back 1

2. Answer to Question 2 is "D".

   Go back 2

3. Answer to Question 3 is "C".

   Go back 3

4. Answer to Question 4 is "C".

   Go back 4

5. Answer to Question 5 is "D".

   Go back 5

6. Answer to Question 6 is "C".

   Go back 6

7. Answer to Question 7 is "B".

   Go back 7

8. Answer to Question 8 is "C".

   Go back 8

9. Answer to Question 9 is "B".

   Go back 9

10. Answer to Question 10 is "C".

    Go back 10

11. Answer to Question 11 is "B".

    Go back 11

12. Answer to Question 12 is "C".

    Go back 12

13. Answer to Question 13 is "A".

    Go back 13

14. Answer to Question 14 is "B".

    Go back 14

15. Answer to Question 15 is "C".

    Go back 15