

TMATYC - Developmental Algebra Test – 2012

Instructions for the Answer Sheet

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO

To the student:

Complete **all** information on answer sheet. Carefully answer the eligibility questions. You will be disqualified if you take an incorrect test. If you are unsure of your eligibility status, ask your test monitor **NOW**, before starting the test. No questions may be asked once the test begins.

You have one hour to take this test. You are allowed to use a non-symbolic calculator (such as the TI-83, TI-84, or TI-86). Calculators that perform symbolic manipulations are **not** allowed (these include the TI-89, TI-92, or TI-Nspire). Blank scratch paper is allowed. No books, notes, or any other electronic devices are allowed. Please refrain from using any cell phone during the test. Such devices should be muted or put on silent mode.

There are 25 questions on the test. Each question is worth 4 points for a correct answer, but 1 point will be subtracted for each incorrect answer. There is no penalty for unanswered questions.

You are not expected to answer every question in the time allowed. If you are having difficulty with a question, skip it and, if time permits, return to it after you finish the others.

Place the letter for your choice of the correct response on the answer sheet under the column entitled "Student's Response". **Write your letters in block capital form (i.e. write as A, B, C, OR D).**

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TMATYC - Developmental Algebra Test – 2012 Answer Sheet

Name: _____ School: _____

Address: _____

Current Math Class: _____

Math Teacher: _____

	Student's Response	Scorer
1		
2		
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Email: _____

Phone: _____

Have you received a two-year or higher college degree? Yes No

Have you ever been enrolled in a college-level math class?

Yes No

If yes, which class? _____

For Scorer:

Number Correct = _____

Number Incorrect = _____

Number Blank = _____

Num Correct \times 4 = _____

– Num Incorrect = _____

Score on Test = _____

TMATYC
DEVELOPMENTAL MATHEMATICS TEST
2012

1. Convert $2\frac{6}{7}\%$ to a fraction:

A. $\frac{1}{35}$

B. $2\frac{6}{20}$

C. $\frac{20}{7}$

D. $\frac{3}{175}$

2. $|3 + |4 - 12| + 12| =$

A. 23

B. 7

C. -23

D. -7

3. $\frac{8 + |7 - 9| + 8^2}{9 - 7} =$

A. 37

B. 36

C. -35

D. -37

4. $\frac{343}{64} \cdot \left(\frac{4}{7}\right)^2 - \frac{3}{20} =$

A. $\frac{25}{20}$

B. $\frac{5}{8}$

C. $\frac{64}{25}$

D. $\frac{8}{5}$

5. Evaluate: $1 + 2 + 3 + 4 + \dots + 98 + 99 + 100 =$

A. 4750

B. 9950

C. 6750

D. 5050

6. Choose the equivalent expression of $\left(\frac{-2^4 xy}{(-2)^4 x^3 y}\right)^{-3}$

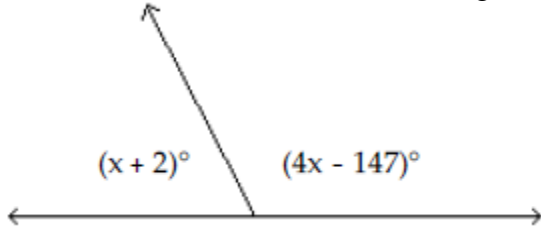
A. $-x^{-6}$

B. x^{-6}

C. x^6

D. $-x^6$

7. Find the measure of each marked angle.



- A. 69° and 111° B. 65° and 115° C. 67° and 113° D. 67° and 23°

8. Perform the indicated operation. Write the answer in scientific notation.

$$\frac{5.4 \times 10^5 \times 5.5 \times 10^4}{3 \times 10^{-3} \times 1.5 \times 10^6}$$

- A. 9.9×10^6 B. 6.6×10^{12} C. 6.6×10^{18} D. 6.6×10^6

9. Find y , given

$$\frac{2}{2\frac{1}{3}} = \frac{y}{\frac{1}{2}}$$

- A. $\frac{7}{3}$ B. $\frac{3}{7}$ C. $2\frac{2}{3}$ D. 2

10. Solve the inequality: $-8x - 1 \geq -9x - 3$

- A. $(-8, \infty)$ B. $[-2, \infty)$ C. $(-\infty, -2]$ D. $(-\infty, -8)$

11. Find an equation in slope-intercept form (where possible) for the line passing through $(5, 10)$ with undefined slope.

- A. $-\frac{1}{5}x + 10y = 0$ B. $x = 5$ C. $y = 10$ D. $-5x + 2y = 0$

12. The domain of $f(x) = 3000x$ is

- A. 3000 B. all real numbers C. $x > 3000$ D. $x < 3000$

13. Given: $G = \frac{4\pi Ak}{\lambda^2}$; solve for λ .

A. $\frac{G}{4\pi Ak}$

B. $\frac{4\pi Ak}{G}$

C. $\pm \sqrt{\frac{4\pi Ak}{G}}$

D. $\sqrt{\frac{Gk}{4\pi A}}$

14. Let $f(x) = 4x - 4$. This means, if x is 10, then the function value is $f(10) = 4(10) - 4 = 36$.

What value of x will give a function value of 8?

A. 3

B. 28

C. 36

D. Not enough information to calculate.

15. Mary is y years old and her father is $(y + 20)$ years old. Her age will be half of her father's age in 5 years. Find out the age of Mary's father.

A. 15 years old

B. 20 years old

C. 25 years old

D. 35 years old

16. Solve for y : $y^4 - 5y^2 = 36$

A. $\{-2, -3, 2, 3\}$

B. $\{-2i, -3i, 2, 3\}$

C. $\{-2i, 2i, -3, 3\}$

D. $\{-3i, 3i, -2, 2\}$

17. Divide $\frac{2p-2}{p} \div \frac{4p-4}{3p^2}$

A. $\frac{8p^2 + 16p + 8}{3p^3}$

B. $\frac{2}{3p}$

C. $\frac{3p}{2}$

D. $\frac{6p^3 - 6p^2}{4p^2 - 4p}$

18. Marsha borrows \$5,000 and agrees to pay it back in 7 years. If the simple interest rate is 10%, find the total amount she pays back.

A. \$3,500

B. \$8,500

C. \$17,500,000

D. \$5,700

19. A square plywood platform has a perimeter which is 8 less than 8 times the length of its side. Find the area (in square units) of the platform.

A. 2

B. 1

C. 6

D. 4

20. A boat travels 7 miles south and then 9 miles east. How far is the boat from its starting point? Round approximations to the nearest tenth.

- A. 11.4 mi B. 6.3 mi C. 16.0 mi D. 4.7 mi

21. Paul has grades of 62 and 69 on his first two tests. What must he score on his third test in order to have an average of at least 70?

- A. at least 66 B. at least 79 C. at most 67 D. at most 70

22. Nancy has 261 points in her math class. She must have 70% of the 890 points possible by the end of the term to receive credit for the class. What is the minimum number of additional points she must earn by the end of the term to receive credit for the class?

- A. 629 points B. 362 points C. 759 points D. 408 points

23. Which of the following is true?

A. The equation $3x + 5 = 3x + 5$ has no real solutions.

- B. $(-2)^{3000} > -2^{3000}$ C. $|2^{-3}| > |-2^3|$ D. 51 is a prime number.

24. If $\frac{7}{x} \geq \frac{1}{3}$, what is the largest possible value for x?

- A. $\frac{1}{3}$ B. 4 C. 10 D. 21

25. For $1 \leq x \leq 2$, which of the following is equal to $||x - 3| - |1 - x||$

- A. $2x - 4$ B. $4 - 2x$ C. $2 - 2x$ D. 2