

**MTH 098 READINESS TEST  
(FALL 2007)  
SECTION A**

**DO NOT WRITE ON THIS DOCUMENT. PLACE YOUR ANSWERS ON THE ANSWER SHEET PROVIDED.**

Solve the equation. Answers should be reduced to lowest terms where applicable. Be sure to check your answers.

1)  $-4.9q + 1.8 = -5.8 - 1.1q$

2)  $\frac{1}{4}(x + 6) = \frac{1}{2}(x - 8)$

3)  $\frac{1}{6}x + \frac{1}{7}x = -5$

4)  $-1 - (X + 2) = 4 + 3(X - 2)$

5)  $\frac{1}{8}(x - 2) = 5(x + 1)$

6)  $1x + 0.33x = 5.33$

Solve for the given letter.

7)  $A = P(1 + nr)$  for  $r$

8)  $A = \frac{1}{2}h(B + b)$ , for  $b$

9)  $P = 2L + 2W$ , for  $W$

Solve.

10) The sum of three consecutive integers is 474. Find all three integers.

11) In a triangular fence, the second angle is 2 times as large as the first angle. And the measure of the third angle is  $20^\circ$  greater than that of the first angle. How large are the angles?

12) A rectangle has a perimeter of 122 inches. The length of the carpet is 4 inches more than the width. What is the length and width?

Solve the problem. Round to the nearest hundredth, if necessary.

13) 86 is 70% of what number?

A) 60.2

B) 1228.6

C) 12.29

D) 122.86

14) 96 is what percent of 155?

A) 137.14

B) 13.71

C) 67.2

D) 1371.4

15) What is 30% of 1344

A) 4032

B) 40,320

C) 40.32

D) 403.2

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**SECTION B**

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**Complete.**

1) Complete the following for the given polynomial:

A) identify the degree of each term

B) identify the degree of the polynomial

C) write the polynomial in descending order with respect to  $x$

$$x^{12} - 8x^2 + x^9y^5 - 15x^6$$

**Add.**

2)  $(3n^6 + 7n + 4n^4) + (-7n^4 + 7n^6 + 5n)$

3)  $(7n^7 + 9n + 2n^4) + (2n^4 + 4n^7 + 8n)$

**Subtract.**

4)  $(-3x^7 + 8x^9 + 5 - 2x^8) - (7 - 7x^8 + 2x^9 - 8x^7)$

5)  $(-9n + 9n^6 - 12n^5) - (8n^5 + 5n^6 + 16n)$

**Multiply.**

6)  $(x - 8)(-2x + 1)$

A)  $-2x^2 - 8x + 17$

B)  $-2x^2 + 17x + 17$

C)  $-2x^2 + 17x - 8$

D)  $-2x^2 + 15x - 8$

7)  $(x - 3y)(-4x + 10y)$

A)  $x^2 + 22xy - 30y^2$

B)  $x^2 + 22xy + 22y^2$

C)  $-4x^2 + 22xy - 30y^2$

D)  $-4x^2 + 22xy + 22y^2$

8)  $(11r - 9)(11r + 9)$

A)  $121 + 198r - 81r^2$

B)  $121r^2 - 198r - 81r^2$

C)  $11r^2 - 81$

D)  $121r^2 - 81$

9)  $(9x - 7y)^2$

A)  $9x^2 - 126xy + 49y^2$

B)  $81x^2 - 126xy + 49y^2$

C)  $9x^2 + 49y^2$

D)  $81x^2 + 49y^2$

10)  $(6y - 7)(36y^2 + 42y + 49)$

A)  $216y^3 + 294y^2 - 343$

B)  $216y^3 - 343$

C)  $36y^3 + 343$

D)  $216y^3 + 343$

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**SECTION C**

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**Factor completely.**

1)  $30x^8y^8 - 48x^6y^5 - 30x^3y^3$

A)  $6(5x^8y^8 - 8x^6y^5 - 5x^3y^3)$

C)  $6x^3y^3(5x^5y^5 - 8x^3y^2 - 5)$

B)  $-6x^3y^3(-5x^5y^5 - 8x^3y^2 + 5)$

D)  $6x^3(5x^5y^8 - 8x^3y^5 - 5y^3)$

2)  $108m^8 + 72m^6 - 72m^2$

A)  $36m^2(3m^6 + 2m^4 - 2)$

C)  $m^2(108m^6 + 72m^4 - 72)$

B)  $36(3m^8 + 2m^6 - 2m^2)$

D)  $-m^2(-108m^6 + 72m^4 + 72)$

**Factor out the polynomial completely. Then choose which of the following is a factor of the polynomial.**

3)  $u^2 - 2uv - 35v^2$

A)  $(u - 5v)$

B)  $(u + 5v)$

C)  $(u + v)$

D)  $(u + 7v)$

**Factor.**

4)  $16x^2 - 49$

A)  $(x - 49)$

B)  $(16x + 1)$

C)  $(16x - 1)$

D)  $(4x + 7)$

**Factor out the polynomial completely. Then choose which of the following is a factor of the polynomial.**

5)  $x^2 - 5x - 66$

A)  $(x + 6)$

B)  $(x + 1)$

C)  $(x + 11)$

D)  $(x - 6)$

6)  $2x^2 - 2x - 12$

A)  $(2x - 6)$

B)  $(x + 3)$

C)  $(x + 2)$

D)  $(2x + 4)$

**Factor.**

7)  $z^2 + 2z + 1$

A)  $(z + 1)$

B)  $(z - 2)$

C)  $(z + 2)$

D)  $(z - 1)$

8)  $3x^2 - 8x - 35$

A)  $(3x + 7)$

B)  $(7x + 3)$

C)  $(x + 6)$

D)  $(x + 3)$

9)  $3x^2 + 28x + 32$

A)  $(x + 4)$

B)  $(x - 24)$

C)  $(3x + 4)$

D)  $(3x - 24)$

10)  $294x^2 - 384$

A)  $(42x - 18)$

B)  $(7x - 8)$

C)  $(42x + 18)$

D)  $(7x + 9)$

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**(FALL 2007)**

**SECTION D**

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**Graph the linear equation.**

1)  $-2x - 4y = 8$

2)  $y = \frac{1}{3}x - 1$

3)  $5x + 5y = 0$

4)  $y = -\frac{3}{2}x + 2$

5)  $-x - 7y = 7$

6)  $y = -3$

**Find the slope of the line that goes through the given pair of points.**

7)  $(-1, -6)$  and  $(-3, 8)$

**Find the slope and the y-intercept of the line.**

8)  $3x + 5y = 21$

**Find the x-intercept and y-intercept for the equation.**

9)  $-2x - 3y = 9$

**Tell whether the pair of lines is "parallel", "perpendicular", or "neither."**

10)  $9x + 3y = 12$   
 $27x + 9y = 38$

## ANALYZING GRAPHS OF LINEAR EQUATIONS

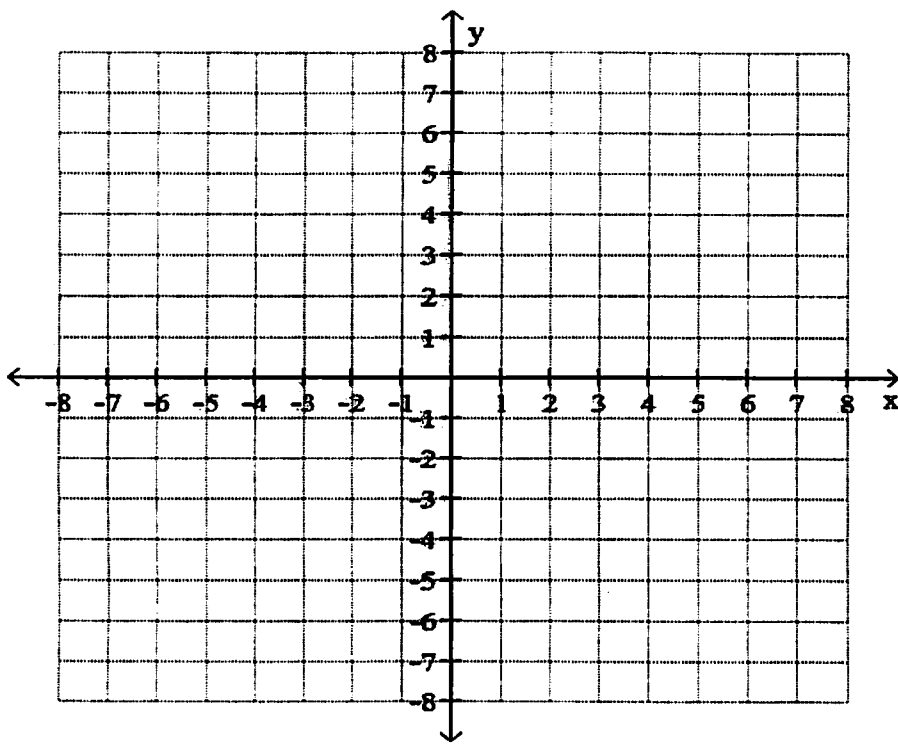
Given the equation \_\_\_\_\_, find the following information:

A) Two ordered pairs (cannot be intercepts) \_\_\_\_\_

B) X-intercept \_\_\_\_\_

C) Y-intercept \_\_\_\_\_

D) Slope \_\_\_\_\_



## ENG 093 Exit Exam Writing Prompts

-A-

In the aftermath of the April 16<sup>th</sup> shootings at Virginia Tech, the president of a community college has instituted random searches of students' backpacks, book-bags, purses, and cars to check for guns, knives, and other weapons. Anyone caught with these weapons will be immediately dismissed from the college. The president argues that the random searches will not only guard against weapons on the campus but will also help students feel safer. What is your position on this issue? Write a 5-paragraph essay stating your position and supporting it with convincing reasons.

-B-

Think of one specific thing about Lawson State Community College that you would like to see changed. Write a five-paragraph essay stating your opinion and supporting it with convincing reasons. Your intended audience is the college administration.

-C-

For more than a century, baseball has been known as America's "National Pastime," almost our official national sport. Some people have recently noted that baseball's popularity is diminishing. They argue that some other sport should replace baseball as America's National Pastime. Do you agree or disagree? If you believe some other sport should assume this honor, what sport should it be (football, basketball, soccer, auto racing, golf, hockey, tennis, boxing, something else...) and why? Write a five-paragraph essay stating your opinion and supporting it with convincing reasons.

-D-

Do you agree or disagree with the following statement: The Internet is the best thing ever to happen to higher education. Write a five-paragraph essay stating your opinion and supporting it with convincing reasons.

-E-

Write an essay proposing a new national holiday. You anticipate that there will be people who don't agree with your idea, so defend your reasoning by explaining the meaning and background of the event/person and why a national holiday is justified. Write a five-paragraph essay stating your opinion and supporting it with convincing reasons.

-F-

Suppose that the state has created a plan to add a second highway exit to help shoppers access a busy shopping mall. The only problem is that the new exit will move the access road 500 yards closer to a nearby elementary school. Teachers and parents at the school complain that moving the road closer will increase noise and air pollution at the school and provide unnecessary distractions. The state planners have included privacy fences to help cut down on the problems, but the protesters are unsatisfied. What is your position on this issue? Write a five-paragraph essay stating your opinion and supporting it with convincing reasons.

**ENG 092 Exit Exam**  
**Developmental English Division**

**Part I: Identifying Sentences**

*Mark "A" if the sentence is correct.*

*Mark "B" if the sentence is a run-on (a comma splice or fused sentence).*

*Mark "C" if the sentence is a fragment.*

1. Ottawa is the capital of Canada, but Toronto is the capital of Ontario.
2. Susanne wanted to be here but she cannot come because her car is in the shop.
3. Behind that second row of books in the library.
4. Perplexed by the rising rates of inflation and alarmed by the decline in major construction projects.
5. A great hero of the American Civil Rights Movement.
6. All over the country, people sell products over the Internet, these people are making impressive profits.
7. After the sixth inning, I went home.
8. Fifty-three Americans were trapped in the embassy when the revolution broke out.
9. This is going to be the most difficult exam of your college career, you had better start studying for it immediately.
10. College courses are now being taken by many senior citizens and some schools even offer them special programs.

**Part II: Identifying Topic Sentences.** *The sentences of each paragraph have been mixed up. Identify the paragraph's topic sentence.*

11.
  - a. The dance patterns of bees help to point the way to distant flower fields.
  - b. Nearly all living creatures use some form of communication.
  - c. Male deer mark territorial ownership by rubbing their own body secretions on trees.
  - d. Everyone has seen a frightened dog put his tail between his legs and run in panic.
  - e. We, too, use language, gestures, expressions, and postures to communicate our thoughts and feelings.
12.
  - a. I remained motionless, not even breathing, until the wave rolled back into the lake, drawing the snake with it.
  - b. As I stared at it, an incoming wave gently deposited part of its body on one of my feet.
  - c. One evening when I was wading in the shallows of the lake, I suddenly stopped dead when I saw the sinuous black body of a snake in the water.
  - d. It was over six feet long, and from the hood and dark stripes at the back of the neck, I knew it was a deadly water cobra.
  - e. Then I leaped out of the water as fast as I could, my heart hammering.

13. a. Aunt Selma's feelings were hurt, so I had to apologize.  
b. For example, one time I was reprimanded at work for making fun of a customer behind his back.  
c. The customer heard what I said and complained to the store manager.  
d. Another time, I made a funny comment about my Aunt Selma's new dress.  
e. My sense of humor sometimes gets me into trouble.
14. a. Caffeine is a drug that acts fast. In less than five minutes after you've drunk a cup of coffee, caffeine is racing to every part of your body.  
b. Caffeine also boosts the pumping strength of the heart, and too much can cause an irregular heartbeat.  
c. Although caffeine is the world's most widely consumed drug, few people realize how powerful it is.  
d. Its effects are many, including increasing the flow of urine and stomach acid, relaxing involuntary muscles, and stepping up the intake of oxygen.  
e. A small dose of caffeine can improve your performance as your type or drive, but the effect of too much caffeine will make you shaky and unsteady.
15. a. When the helicopter had lifted out all five, it returned to pick up that last survivor, but he had disappeared under the ice.  
b. An altruistic person is someone who will help others even when he or she expects no benefits in return.  
c. Most of the passengers died under the ice, but six passengers escaped the icy waters.  
d. Every time a life preserver was lowered by a helicopter, one man passed it onto one of the other five.  
e. Consider the example of one of the passengers of a plane that crashed into the Potomac River one cold January day in 1982.

**Part III: Sentence Fragments. Mark "A" if the passage is correct. Mark "B" if it contains a fragment.**

16. I attended Morris High School. A school with a very good reputation.
17. The scene was filled with beauty. Such as the sun sending its brilliant rays to the earth and the leaves of various shades of yellow and red.
18. A few of the less serious students would go into a bar for a steak dinner and a few glasses of beer. After this, they were ready for anything.
19. One key to success is the ability to speak well. Whatever profession you will enter.
20. If a child is having trouble seeing the difference between squares, circles, and triangles, that's one sign that he or she may have dyslexia. A common learning disorder.
21. Newspapers are usually thrown out after a day. Magazines, however, may stay around the house for weeks or even months.
22. I feel dread every time I sit down to take our Friday math quiz. Especially if it covers fractions or decimals.
23. Education is the only way you're ever going to escape poverty. It's the only way you're ever going to get ahead in life and be successful.
24. If she had not had the surgery on her knee. She probably wouldn't be able to walk at all.
25. Some people organize a shopping list alphabetically. Other people group items by categories.

**Part IV: Punctuation. Choose the sentence that is punctuated correctly.**

26. a. Mary graduated in four years but she didn't find a job immediately.  
b. Mary graduated in four years, but she didn't find a job immediately.  
c. Mary, graduated in four years, but she didn't find a job immediately.  
d. Mary graduated in four years but she didn't find a job, immediately.
27. a. My favorite writers are: Ernest Hemingway, William Faulkner, F. Scott Fitzgerald, and James Joyce.  
b. My favorite writers are: Ernest Hemingway William Faulkner F. Scott Fitzgerald and James Joyce.  
c. My favorite writers are the following: Ernest Hemingway, William Faulkner, F. Scott Fitzgerald, and James Joyce.  
d. My favorite writers are Ernest Hemingway William Faulkner F. Scott Fitzgerald and James Joyce.
28. a. We need to make another plan because Trishas car is in the shop.  
b. We need to make another plan because, Trishas car is in the shop.  
c. We need to make another plan, because Trishas car is in the shop.  
d. We need to make another plan because Trisha's car is in the shop.
29. a. Her favorite children's novel is Harry Potter and the Sorcerer's Stone.  
b. Her favorite children's novel is "Harry Potter and the Sorcerer's Stone."  
c. Her favorite children's novel is Harry Potter and the Sorcerer's Stone.  
d. Her favorite children's novel is {Harry Potter and the Sorcerer's Stone}.
30. a. One of my personal heroes is the Rev. Dr. Martin Luther King, Jr.  
b. One of my personal heroes is the Rev Dr Martin Luther King, Jr.  
c. One of my personal heroes is the Rev. Dr. Martin Luther King Jr.  
d. One of my personal heroes is the Rev. Dr. Martin Luther King Jr
31. a. The little girl whimpered Why can't I come with you?  
b. The little girl whimpered, "Why can't I come with you?"  
c. The little girl whimpered "Why can't I come with you?"  
d. The little girl whimpered, Why can't I come with you?
32. a. Mr. Wilson works at a college; Mrs. Wilson works at a hospital.  
b. Mr. Wilson works at a college but Mrs. Wilson works at a hospital.  
c. Mr. Wilson works at a college Mrs. Wilson works at a hospital.  
d. Mr. Wilson works at a college, Mrs. Wilson works at a hospital.
33. a. Do you know all the words to The Star Spangled Banner?  
b. Do you know all the words to The Star Spangled Banner?  
c. Do you know all the words to "The Star Spangled Banner"?  
d. Do you know all the words to (The Star Spangled Banner)?
34. a. After he mowed the lawn he trimmed the shrubs.  
b. After he mowed the lawn; he trimmed the shrubs.  
c. After he mowed the lawn, he trimmed the shrubs.  
d. After he mowed the lawn--he trimmed the shrubs.
35. a. How many times has the *U. S. Constitution* been amended.  
b. How many times has the *U. S. Constitution* been amended?  
c. How many times has the *US. Constitution* been amended?  
d. How many times has the *U. S. Constitution* been amended

**Part V: Subject-Verb Agreement. Choose the correct verb form that agrees with the subject.**

36. Psychology \_\_\_\_\_ a fun course.  
a. is  
b. are
37. Margaret always \_\_\_\_\_ nice shoes.  
a. wear  
b. wears
38. The woman with the dogs \_\_\_\_\_ down my street.  
a. walk  
b. walks
39. Everybody \_\_\_\_\_ closely to wolves howling in the distance.  
a. listen  
b. listens
40. Mary \_\_\_\_\_ know the answer.  
a. doesn't  
b. don't
41. The musicians \_\_\_\_\_ every day.  
a. practice  
b. practices
42. She and her brothers \_\_\_\_\_ at the fair.  
a. is  
b. are
43. Marcus \_\_\_\_\_ excellent computer skills  
a. have  
b. has
44. There \_\_\_\_\_ many questions.  
a. is  
b. are
45. Connie always \_\_\_\_\_ Paul to take the trash to the dumpster.  
a. remind  
b. reminds

**Part VI: Comma Usage. Choose the answer that identifies where a comma is needed. If no comma is needed, choose “D.”**

46. Mary has a job but she is searching for something different.
- job,
  - but,
  - she,
  - correct: no comma needed
47. Although it is raining outside we are still going to the beach.
- Although,
  - outside,
  - raining,
  - correct: no comma needed
48. After I left the party I went to my mother’s house.
- left,
  - party,
  - went
  - correct: no comma needed
49. Marvin fell on the floor and broke his leg.
- Marvin,
  - fell,
  - floor,
  - correct: no comma needed
50. Unfortunately you will need to pay an extra fee.
- Unfortunately,
  - need,
  - pay,
  - correct: no comma needed
51. Because I studied for six hours I passed my math test.
- studied,
  - hours,
  - passed
  - correct: no comma needed
52. That isn’t exactly illegal but I would say that it is unethical.
- illegal,
  - say,
  - that,
  - correct: no comma needed
53. The mystery box contained a wig, a costume, some makeup and a movie script.
- contained,
  - some,
  - makeup,
  - correct: no comma needed

54. Diving for the football Mark snatched it from the air with one hand.
- Diving,
  - football,
  - air,
  - correct: no comma needed

55. If I were you I wouldn't walk down that street alone at night.
- you,
  - walk,
  - street,
  - correct: no comma needed

**Part VII: Capitalization. Choose the sentence that shows correct capitalization.**

56. a. The meetings will be held in Atlanta, Georgia and Chicago, Illinois.  
b. The meetings will be held in Atlanta, georgia and Chicago, illinois.  
c. The meetings will be held in atlanta, georgia and chicago, illinois.  
d. The meetings will be held in ATLANTA, GEORGIA and CHICAGO, ILLINOIS.
57. a. Martha said, "no one wants to attend the party."  
b. Martha Said, "no one wants to attend the party."  
c. Martha said, "No one wants to attend the Party."  
d. Martha said, "No one wants to attend the party."
58. a. Is spanish your native language?  
b. Is Spanish your native language?  
c. Is Spanish your native Language?  
d. Is spanish your native Language?
59. a. After she graduates, she plans to attend Lawson state community college.  
b. After she graduates, she plans to attend Lawson State Community college.  
c. After she graduates, she plans to attend Lawson State Community College.  
d. After she graduates, she plans to attend Lawson State community college.
60. a. Go West until you see a Church on the Right.  
b. Go West until you see a church on the right.  
c. Go west until you see a church on the right.  
d. Go west until you see a Church on the right.
61. a. Her favorite play is *Death of a Salesman*.  
b. Her favorite play is *Death Of A Salesman*.  
c. Her favorite play is *death of a salesman*.  
d. Her favorite play is *Death of a salesman*.
62. a. I sent a thank-you note to aunt mary, but not to my other aunts.  
b. I sent a thank-you note to aunt Mary, but not to my other aunts.  
c. I sent a thank-you note to Aunt Mary, but not to my other Aunts.  
d. I sent a thank-you note to Aunt Mary, but not to my other aunts.

63. a. Does Thanksgiving Day always fall on a Thursday, or does it sometimes fall on a Monday?  
b. Does Thanksgiving day always fall on a Thursday, or does it sometimes fall on a monday?  
c. Does thanksgiving day always fall on a Thursday, or does it sometimes fall on a Monday?  
d. Does Thanksgiving Day always fall on a thursday, or does it sometimes fall on a monday?
64. a. The most common religion in the United States is christianity, but the most common religion in India is hinduism.  
b. The most common religion in the United States is Christianity, but the most common religion in India is Hinduism.  
c. The most common religion in the United states is Christianity, but the most common religion in India is Hinduism.  
d. The most common Religion in the United States is Christianity, but the most common Religion in India is Hinduism.
65. a. "Before you go," The sergeant ordered, "synchronize your watches."  
b. "Before you go," the sergeant ordered, "Synchronize your watches."  
c. "Before you go," the sergeant ordered, "synchronize your watches."  
d. "Before you go," the Sergeant ordered, "Synchronize your watches."

**You have just completed Part I (the objective portion) of the ENG092 exam. Review your answers and turn-in your Scantron sheet and test to your instructor. Then, complete Part II.**