

Math 97-EXAM REVIEW

Choose the best answer for each question.

- $2(-5 + [7 - 4(3 - 6)])$ simplifies to
 - 48
 - 28
 - 27
 - 28
- If $x = -3$ and $y = 2$, then $3x^2 - xy + 5y^2$ is
 - 107
 - 95
 - 53
 - 41
- $[2(x - 3) + 2] - [4(x - 1) - 2x]$ simplifies to
 - $4x - 8$
 - $-2x$
 - 0
 - 8
- The solution set for $10y + 9 = 19$ is
 - $\left\{\frac{14}{5}\right\}$
 - $\{1\}$
 - $\{0\}$
 - $\left\{\frac{-71}{10}\right\}$
- The solution set for $6x - 4 - 4x = 2x - 4$ is
 - $\{2\}$
 - $\left\{\frac{2}{3}\right\}$
 - ϕ
 - $\{x \mid x \text{ is a real number}\}$
- The solution set for $-y - 2(2y - 1) = 5(1 - y)$ is
 - $\{-2\}$
 - $\{\}$
 - $\{2\}$
 - $\{x \mid x \text{ is a real number}\}$
- When written without negative exponents, $\frac{x^{-8}}{y^{-4}}$ becomes
 - $\frac{x^8}{y^4}$
 - $\frac{1}{x^8 y^4}$
 - $\frac{y^4}{x^8}$
 - $x^8 y^4$
- -5^0 is best written as
 - 5
 - 1
 - 1
 - 5
- $(-5a^4 b^{-3})^2$ is best written as
 - $\frac{10a^4}{b^3}$
 - $\frac{25a^8}{b^6}$
 - $\frac{5a^8}{b^6}$
 - $\frac{25a^6}{b}$

10. When 1.5×10^5 is written in standard form without exponents, it becomes
- A. 0.0000015
 B. 0.000015
 C. 150,000
 D. 1,500,000
11. 0.0000037 written in scientific notation is
- A. 3.7×10^{-6}
 B. $.37 \times 10^{-5}$
 C. 3.7×10^6
 D. 37×10^{-7}
12. When simplified $(5x^3 + 2x^2 - 3x) + (-6x^3 + 2x^2 + 7x)$ is
- A. $-x^3 + 2x^2 + 4x$
 B. $x^3 + 4x^2 + 10x$
 C. $x^3 + 4x^2 + 4x$
 D. $-x^3 + 4x^2 + 4x$
13. When simplified $(-4x^2 - 6x + 2) - (3x^2 + 2x - 7)$ is
- A. $-7x^2 - 4x + 9$
 B. $-7x^2 - 8x + 9$
 C. $x^2 - 4x - 5$
 D. $x^2 - 8x + 9$
14. When simplified $(4x^5)(-2x^3)$ is
- A. $2x^8$
 B. $-8x^{15}$
 C. $-8x^8$
 D. $2x^{15}$
15. When simplified $-3x^2(x^2 - 3x - 1)$ is
- A. $-3x^4 + 9x^3 + 3x^2$
 B. $-3x^4 - 3x - 1$
 C. $-3x^4 - 9x^3 - 3x^2$
 D. $-3x^2 - 9x + 3$
16. When simplified $(3x - 1)(3x + 1)$ is
- A. $9x^2 + 1$
 B. $9x^2 - 6x - 1$
 C. $9x^2 - 1$
 D. $9x^2 + 6x - 1$
17. When simplified $(x - 5)^2$ is
- A. $x^2 + 25$
 B. $x^2 + 10x + 25$
 C. $x^2 - 25$
 D. $x^2 - 10x + 25$
18. Reduced to lowest terms, $\frac{2xy - 6x^2y + 8x^2y^2}{2xy}$ becomes
- A. $1 - 6x^2 + 8x^2y^2$
 B. $xy - 3x^2y + 4x^2y^2$
 C. $1 - 3x + 4xy$
 D. $2 - 6x + 8xy$
19. The only number in $\left\{-2.7, -\frac{5}{3}, 0, 0.\bar{3}, 4, \sqrt{48}\right\}$ that is irrational is
- A. $-\frac{5}{3}$
 B. $0.\bar{3}$
 C. 4
 D. $\sqrt{48}$
20. The greatest common factor of $4x^5 - 8x^4 + 12x^3$ is
- A. 4
 B. $4x$
 C. $4x^3$
 D. $4x^5$

21. The complete factorization of $x^2 + 2x - 3$ is

- A. $(x-1)(x-3)$
- B. $(x-1)(x+3)$
- C. $(x+1)(x-3)$
- D. $(x+1)(x+3)$

22. One of the prime factors of $6t^2 - 19t - 20$ is

- A. $(t+5)$
- B. $(2t+5)$
- C. $(6t+5)$
- D. $(t+1)$

23. The prime factorization of $16x^2 + 48x + 36$ is

- A. $(8x+12)(2x+3)$
- B. $4(2x+3)^2$
- C. $4(2x-3)^2$
- D. $(4x+9)^2$

24. The prime factorization of $16x^2 - 25$ is

- A. $(8x-5)(2x+5)$
- B. $(8x-5)(8x+5)$
- C. $(16x-25)(16x+25)$
- D. $(4x-5)(4x+5)$

25. One of the prime factors of $8x^3 + 27$ is

- A. $(4x^2 - 6x + 9)$
- B. $(4x^2 - 6x - 9)$
- C. $(4x^2 + 6x + 9)$
- D. $(2x^2 - 6x + 3)$

26. The prime factorization of $ab^2 + ac + b^2d + cd$ is

- A. $(a+c)(d+b^2)$
- B. $(a+d)(b^2+c)$
- C. $a(b^2+c) + (b^2+c)$
- D. $(a+d)^2(b^2+c)$

27. The solution set for $x^2 = 16$ is

- A. $\{4\}$
- B. $\{-4\}$
- C. $\{16\}$
- D. $\{-4, 4\}$

28. The solution set for $6x^2 + x = 2$ is

- A. $\left\{\frac{-3}{2}, 2\right\}$
- B. $\left\{\frac{-1}{2}, \frac{2}{3}\right\}$
- C. $\left\{\frac{1}{2}, \frac{-3}{2}\right\}$
- D. $\left\{\frac{-2}{3}, \frac{1}{2}\right\}$

29. When completely simplified

$\frac{2t-1}{t+2} \cdot \frac{t^2+2t}{2t^2+t-1}$ becomes

- A. $\frac{t}{t+1}$
- B. $\frac{t(2t-1)}{2t^2+t+1}$
- C. $\frac{t^2+2t}{(t+2)(t+1)}$
- D. $\frac{t}{t-1}$

30. When completely simplified

$\frac{x}{x^2-1} \div \frac{x-1}{x^2-3x-4}$ becomes

- A. $\frac{x-1}{x}$
- B. $\frac{x(x-4)}{(x-1)^2}$
- C. $\frac{x}{x-1}$
- D. $\frac{x(x-1)}{(x^2-1)(x^2-3x-4)}$

31. When simplified completely

$$\frac{x}{x^2-1} + \frac{x}{x+1} \text{ becomes}$$

A. $\frac{x^2}{x^2-1}$

B. -1

C. $\frac{x^2+2x}{x^2-1}$

D. $\frac{2x}{x^2+x}$

32. When simplified completely

$$\frac{5-2x}{x+7} - \frac{x+3}{x+7} \text{ becomes}$$

A. $\frac{-3x+2}{0}$

B. $\frac{-3x+8}{x+7}$

C. $\frac{-x+8}{x+7}$

D. $\frac{-3x+2}{x+7}$

33. When simplified completely

$$\frac{x^2+1}{x-1} - \frac{3}{1-x} \text{ becomes}$$

A. $\frac{x^2-2}{x-1}$

B. $\frac{x^2-2}{1-x}$

C. $\frac{x^2+4}{x-1}$

D. $\frac{x^2+4}{1-x}$

34. The solution set for $\frac{6}{3x} - \frac{2}{x} = 4$ is

A. $\{0\}$

B. $\left\{\frac{1}{12}\right\}$

C. $\{12\}$

D. ϕ

35. The solution set for $\frac{x}{x-1} = \frac{2x}{x+1}$ is

A. $\{0, 3\}$

B. $\{3\}$

C. $\{0\}$

D. ϕ

36. When $ax + cy = 7$ is solved for y , we get $y =$

A. $\frac{7}{c} - ax$

B. $\frac{(7-ax)}{c}$

C. $\frac{7}{a} - cx$

D. $\frac{(7+ax)}{c}$

37. When simplified completely

$$1 + \frac{1}{x} - \frac{1}{x^2}$$

becomes

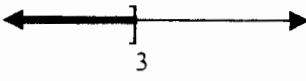
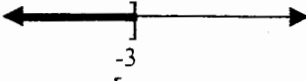
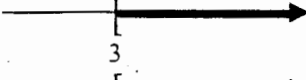
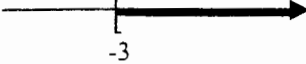
A. $\frac{x}{x-1}$

B. $\frac{x}{x^2-1}$

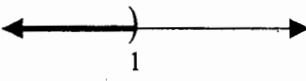
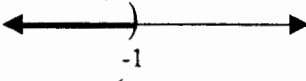
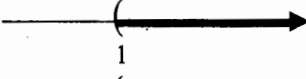
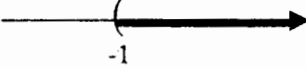
C. $\frac{x^2+1}{x-1}$

D. $-\frac{1}{x}$

38. The graph of $6 - 3x \leq -3$ most closely resembles

- A. 
- B. 
- C. 
- D. 

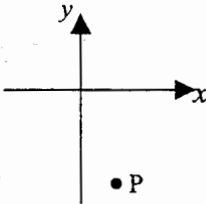
39. The graph of $4x + 1 < 9x - 4$ most closely resembles

- A. 
- B. 
- C. 
- D. 

40. $(-6, 10)$ is located in quadrant

- A. I
B. II
C. III
D. IV

41. The coordinates of point P are approximately

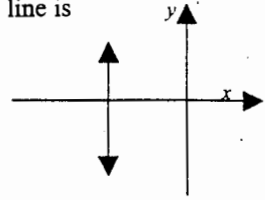
- A. $(1, -5)$
B. $(-5, 1)$
C. $(-5, -1)$
D. $(-1, -5)$
- 

42. The only ordered pair below that is a solution for $3x + y = 8$ is

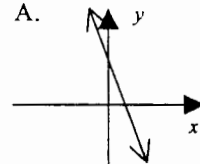
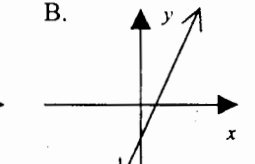
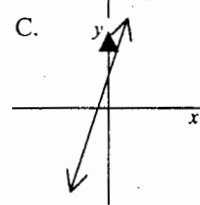
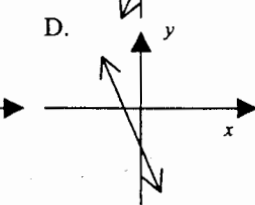
- A. $(2, 0)$
B. $(3, -1)$
C. $(0, 4)$
D. $(-2, 2)$

43. The only equation below that could be the equation of the line is

- A. $y = 3$
B. $y = -3$
C. $x = 3$
D. $x = -3$



44. The graph of $2x - y = 6$ most closely resembles

- A. 
- B. 
- C. 
- D. 

45. The sum of three consecutive odd integers is 261. The smallest of the three integers is

- A. 83
B. 84
C. 85
D. 86

46. The length of a rectangle is 6 cm. greater than its width. The area of the rectangle is 112 cm^2 . Then the length in cm. is

- A. -14
B. 8
C. 8 or 14
D. 14

47. The x-intercept of the line $4x - y = 8$ is

- A. $(0, -8)$
B. $(0, 2)$
C. $(2, 0)$
D. $(-8, 0)$

48. The value(s) which make $\frac{7}{(x-1)(x+3)}$ undefined is(are)

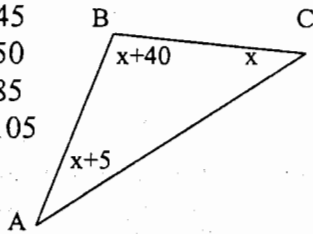
- A. 0
- B. 7
- C. -1 and 3
- D. 1 and -3

49. If $f(x) = 3x^2 - 4x$, then $f(-5) =$

- A. -55
- B. 55
- C. 95
- D. 245

50. The measure of angle A in degrees, is

- A. 45
- B. 50
- C. 85
- D. 105



KEY

- 1. D
- 2. C
- 3. C
- 4. B
- 5. D
- 6. B
- 7. C
- 8. C
- 9. B
- 10. C
- 11. A
- 12. D
- 13. B
- 14. C
- 15. A
- 16. C
- 17. D
- 18. C
- 19. D
- 20. C
- 21. B
- 22. C
- 23. B
- 24. D
- 25. A
- 26. B
- 27. D
- 28. D
- 29. A
- 30. B
- 31. A
- 32. D
- 33. C
- 34. D
- 35. A
- 36. B
- 37. A
- 38. C
- 39. C
- 40. B
- 41. A
- 42. B
- 43. D
- 44. B
- 45. C
- 46. D
- 47. C
- 48. D
- 49. C
- 50. B