MATH 0097 Final Exam Review

Revised Summer 2009

This review does not include all topics covered on your Final Exam. However, it will provide a good review of most of the topics. The Math 0097 Final Exam will contain at most 40 multiple choice questions.

Choose the best answer for each question.

1. When simplified $\dfrac{-5(2+1)+5-8}{-2-4}$ is

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

$-10-5+5-8$
$-15+5-8$
$-10-8$
-18
$-6 = 3$

2. If $x=-3$ and $y=2$, then $3x^2-xy+5y^2$ is

   A. 107
   B. 95
   C. 53
   D. 41

3. When simplified $\left[2(x-3)+2\right]-\left[4(x-1)-2x\right]$ is

   A. $4x-8$
   B. $-2x$
   C. 0
   D. 8

4. The solution set for $10y+9=19$ is

   A. $\left\{\dfrac{14}{5}\right\}$
   B. $\{1\}$
   C. $\{0\}$
   D. $\left\{-\dfrac{71}{10}\right\}$

5. The solution set for $6x-4-4x=2x-4$ is

   A. $\{2\}$
   B. $\left\{\dfrac{2}{3}\right\}$
   C. $\varnothing$
   D. $\{x \mid x \text{ is a real number}\}$

6. The solution set for $-y-2(2y-1)=5(1-y)$ is

   A. $\{-2\}$
   B. $\varnothing$
   C. $\{2\}$
   D. $\{x \mid x \text{ is a real number}\}$

7. When simplified completely $\dfrac{x^{-8}}{y^{-4}}$ is equivalent to

   A. $\dfrac{x^8}{y^4}$
   B. $\dfrac{1}{x^8y^4}$
   C. $\dfrac{y^4}{x^8}$
   D. x^8y^4

8. -5^0 is equivalent to

   A. 5
   B. 1
   C. -1
   D. -5

9. When simplified completely $x^{-5} \cdot x \cdot x^{-2}$ is

A. $\frac{1}{x^6}$

B. $\frac{1}{x^7}$

C. x^{-7}

D. x^{-6}

10. 1.5 x 10^5 is equivalent to

A. 0.0000015

B. 0.000015

C. 150,000

D. 1,500,000

11. 0.0000037 written in scientific notation is

A. 3.7 x 10^{-6}

B. .37 x 10^{-5}

C. 3.7 x 10^6

D. 37 x 10^{-7}

12. When simplified $\left(5x^3+2x^2-3x\right)+\left(-6x^3+2x^2+7x\right)$ 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 $\left(-4x^2-6x+2\right)-\left(3x^2+2x-7\right)$ is

A. $-7x^2-4x+9$

B. $-7x^2-8x+9$

C. x^2-4x-5

D. x^2-8x+9

14. When simplified $\left(4x^5\right)\left(-2x^3\right)^2$ is

A. $2x^{10}$

B. $-8x^{10}$

C. $8x^{11}$

D. $16x^{11}$

15. When simplified $-3x^2\left(x^2-3x-1\right)$ 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 $\left(3x-1\right)\left(3x+1\right)$ is

A. $9x^2+1$

B. $9x^2-6x-1$

C. $9x^2-1$

D. $9x^2+6x-1$

17. When simplified $\left(x-5\right)^2$ is

A. x^2+25

B. $x^2+10x+25$

C. x^2-25

D. $x^2-10x+25$

18. $\frac{8x^3-6x^2-x+5}{2x}$ is equivalent to

A. $4x^2-3x-2+\frac{5x}{2}$

B. $4x^2-3x-\frac{1}{2}+\frac{5}{2x}$

C. $4x^2-6x+4$

D. $4x^2-7x+5$

19. The only number in $\left\{-2.7,\ -\frac{5}{3},\ 0,\ 0.\overline{3},\ 4,\ \sqrt{48}\right\}$ that is irrational is

A. $-\frac{5}{3}$

B. $0.\overline{3}$

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. One of the factors of $x^2 - 5x + 6$ is

A. $(x+3)$

B. $(x-2)$

C. $(x-1)$

D. $(x-6)$

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

A. $(t+5)$

B. $(2t+5)$

C. $(6t+5)$

D. $(t+1)$

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

A. $(8x+12)(2x+3)$

B. $4(2x+3)^2$

C. $4(4x+1)(x+9)$

D. $(4x+9)^2$

24. One of the factors of $16x^2 - 25$ is

A. $(2x-2)$

B. $(8x-5)$

C. $(16x-25)$

D. $(4x+5)$

25. One of the 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. One of the factors of $x^2 + 2x - xy - 2y$ is

A. $(x-2)$

B. $(2-x)$

C. $(x-y)$

D. x

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. $3(5x+0) = 3(0+5x)$ is an example of the

A. Commutative Property

B. Associative Property

C. Distributive Property

D. Identity Property

30. The only phrase below which represents $x - y$ is

A. x subtracted from y

B. y less than x

C. y minus x

D. y decreased by x

31. If $2x-3y=6$ is solved for y, then $y=$

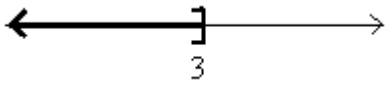
A. $-\frac{3}{2}x-3$

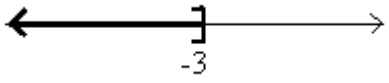
B. $\frac{3}{2}x+3$

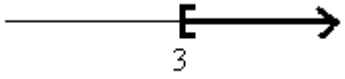
C. $\frac{2}{3}x-2$

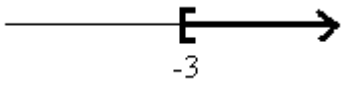
D. $-\frac{2}{3}x+2$

32. The graph of $6-3x\le -3$ most closely resembles

A. 

B. 

C. 

D. 

33. The solution for $4x+1<9x-4$ in interval notation is

A. $(-\infty,1)$

B. $(-\infty,-1)$

C. $(1,\infty)$

D. $(-1,\infty)$

34. $(-6,10)$ is in quadrant

A. I

B. II

C. III

D. IV

35. $-|3-7|=$

A. -10

B. -4

C. 4

D. 10

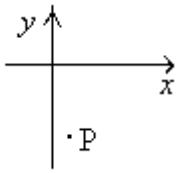
36. The coordinates of point P are possibly

A. $(1,-5)$

B. $(-5,1)$

C. $(-5,-1)$

D. $(-1,-5)$



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

A. $(2,0)$

B. $(3,-1)$

C. $(0,4)$

D. $(-2,2)$

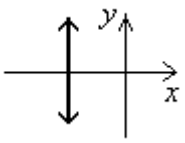
38. The only equation below that could be the equation of this line is

A. $y=3$

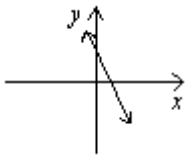
B. $y=-3$

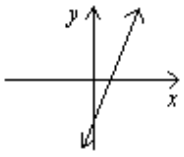
C. $x=3$

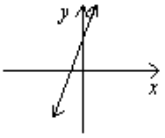
D. $x=-3$

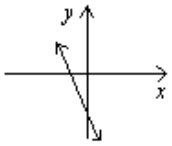


39. The graph of $2x-y=6$ most closely resembles

A. 

B. 

C. 

D. 

40. The supplement of an angle is 4 times the measure of the angle. Let x represent the angle measure. An equation that could be used to solve for x is

A. $180-x=4x$

B. $180+4x=x$

C. $90-x=4x$

D. $90+4x=x$

41. Litsu invested some money at 4% and $3000 more than that at 5%.The two investments produced a total of $600 in interest in 1 year. If x represents the amount invested at 4%, then an equation that could be used to represent this problem is

A. $.04(x+3000)+.05x=600$

B. $.4(x+3000)+.5x=600$

C. $.04x+.05(x+3000)=600$

D. $.4x+.5(x+3000)=600$

42. The x-intercept of $4x-y=8$ is

A. $(0,-8)$

B. $(0,2)$

C. $(2,0)$

D. $(-8,0)$

43. A rectangular box has a length of 10", a width of 5" and a height of 4". The volume of the box is

A. 19 in^2

B. 19 in^3

C. 200 in^2

D. 200 in^3

44. The length of a rectangle is 7 ft. longer than the width, W. The area of the rectangle is 63 ft^2. An equation that could be used to find W is

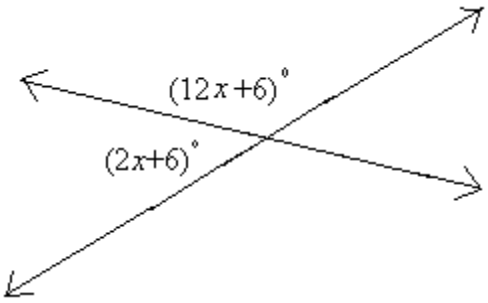
A. $2W+2(W+7)=63$

B. $W+(W+7)=63$

C. $W(W+7)=63$

D. $W^2+(W+7)^2=63$

45.



In the figure above, the measure of the smaller angle is

A. 5.6^o

B. 12^o

C. 30^o

D. 38^o

46. A cashier has a total of 28 bills made up of tens and twenties. The total value of the money is $400. If x represents the number of tens, then an equation that represents this problem is

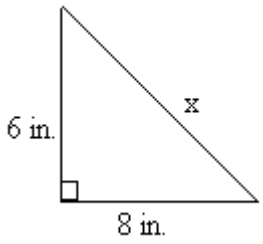
A. $10x+20(28-x)=400$

B. $10(28-x)+20x=400$

C. $10x+20(x-28)=400$

D. $10(28-x)+20x=400$

47. The value of x in the triangle below is



A. $\sqrt{14}$ in.

B. 10 in.

C. 14 in.

D. 100 in.

Answers:

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