MERCER COUNTY COMMUNITY COLLEGE

MAT033/MAT041

Review for Challenge Test

Mathematics Department
Fall 2013

The problems presented within these pages are meant to be representative of the material tested throughout the semester in MAT033 and MAT041. Solutions to these problems and other references may be found at the end of the document.

1. Is $x=-3$ a solution of $5x=3x-6$?

A. It is a solution of the equation. B. It is not a solution of the equation.

2. Express $\frac{3}{20}$ as a decimal.

A. 0.3 B. 1.5 C. 0.03 D. 0.15

3. Simplify the algebraic expression: $4y+(-13z)+(-10y)+17z$.

A. $-2yz$ B. $14y+30z$ C. $-6y+4z$ D. $14y+4z$

4. Convert $\frac{76}{9}$ to a mixed number.

A. $7\frac{13}{9}$ B. $8\frac{4}{9}$ C. $8\frac{2}{3}$ D. $9\frac{1}{9}$

5. Simplify the algebraic expression: $12+5(3x-2)$.

A. $29x$ B. $15x+2$ C. $15x+22$ D. $15x+10$

6. The relationship between Farenheit temperature and Celsius temperature is modeled by $C=\frac{5}{9}(F-32)$. Find the Celsius temperature for a Farenheit temperature of -4^0.

A. 20^0C B. 15.5^0C C. -20^0C D. -15.5^0 C

7. Simplify the algebraic expression: $-4(n-9)+3(n+1)$.

A. $-n-33$ B. $-n+39$ C. $7n-33$ D. $7n+39$

8. Which algebraic expression represents the phrase: the sum of three times a number and 4 times the same number?

A. $3x+4y$ B. $4x+3y$ C. $7y$ D. $12y$

9. Find the sum: $-45+(-\frac{3}{7})+25+(-\frac{4}{7})$.

A. -21 B. 64 C. -19 D. 66

10. Which algebraic expression represents the phrase: a number decreased by $\frac{3}{8}$ of itself?

A. $x-\frac{3}{8}x$ B. $x-\frac{3}{8}$ C. $x-\frac{3}{8}y$ D. $\frac{3}{8}x-x$

11. Simplify: $8-4\div 2-10\div 2$

A. 4 B. 1 C. -3 D. -4

12. Find the sum of $\frac{8}{3}$ and $\frac{5}{12}$.

A. $\frac{10}{9}$ B. $\frac{13}{15}$ C. $\frac{37}{12}$ D. $\frac{3}{5}$

13. What is $|26|$?

A. -26 -26 B. 26 C. 8 D. 4

14. Which of the following is a true statement?

A. $0>17$ B. $133<132$ C. $\frac{1}{2}>\frac{3}{4}$ D. $52.345 < 52.35$

15. Solve: $375+x=486$.

A. 861 B. -861 C. 111 D. -111

16. Divide: $\frac{16}{0}$.

A. 16 B. 0 C. 1 D. Not defined

17. Multiply and simplify: $\frac{11}{24}\bullet\frac{3}{5}$.

A. $\frac{11}{40}$ B. $\frac{55}{72}$ C. $\frac{33}{120}$ D. $\frac{14}{29}$

18. Evaluate the expression $\frac{2x-4}{x-2}$ for $x=-4$.

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

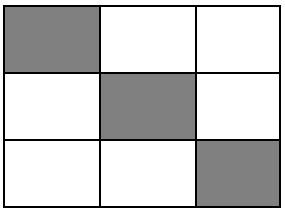
19. Solve the equation: $-7x-5=6-8x$.

A. $\frac{11}{15}$ B. 11 C. -11 D. 15

20. Perform the indicated operation: $\frac{7}{16}-\left(-\frac{5}{8}\right)$.

A. $-\frac{17}{16}$ B. $-\frac{3}{16}$ C. $\frac{17}{16}$ D. $\frac{3}{16}$

21. What part of the figure is shaded?



A. $\frac{2}{3}$ B. $\frac{6}{6}$ C. $\frac{1}{3}$ D. $\frac{1}{2}$

22. Solve the following proportion: $\frac{8}{x}=\frac{5}{3}$.

A. 4.8 B. 1.875 C. 13.3 D. 24

23. What is 40% of 60?

a. 2400 B. 24 C. 1.5 D. 240

24. 20% of what number is 45?

A. 225 B. 36 C. 920 D. 9.2

25. Which of the following is the largest number? $-38,-24,-12,1$

A. - 38 B. - 24 C. - 12 D. 1

26. Which property of real numbers is represented by the following statement? $4(x+2)=4x+8$

A. The commutative property of addition.
B. The distributive property.
C. The associative property of multiplication.
D. The commutative property of multiplication.

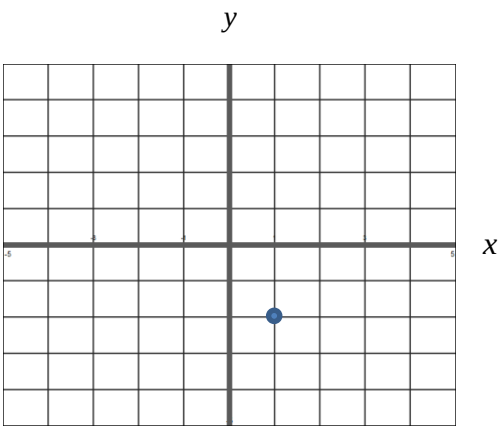
27. Write 36% as a fraction in lowest terms.

A. $\frac{36}{50}$ B. $\frac{18}{100}$ C. $\frac{9}{25}$ D. $\frac{9}{50}$

28. A car can travel 365 miles on 13.5 gallons of gasoline. How far can it travel on 7 gallons?

A. 189 miles B. 200 miles C. 255 miles D. none of these

29. What is the point shown in the grid below? You may assume that each tick mark represents one unit.



A. (-2, -1)
B. (-2, 1)
C. (-1, -2)
D. (1, -2)

30. Simplify: $22-(-18)+7+(-42)-27.$

A. 116 B. 47 C. – 22 D. – 29

31. The perimeter of a rectangle is found by adding the length and the width and multiplying the sum by 2. What is the perimeter of a rectangle whose length is 1.4 meters and whose width is 3.7 meters?

A. 5.2 m. B. 5.1 m. C. 10.2 m. D. 26.8 m.

32. A piece of rope that is 18 feet long is cut into two pieces. If x represents the length of one piece of rope, which of the following expressions represents the length of the other piece of rope?

A. $x-18$ B. $x+18$ C. $18-x$ D. $18x$

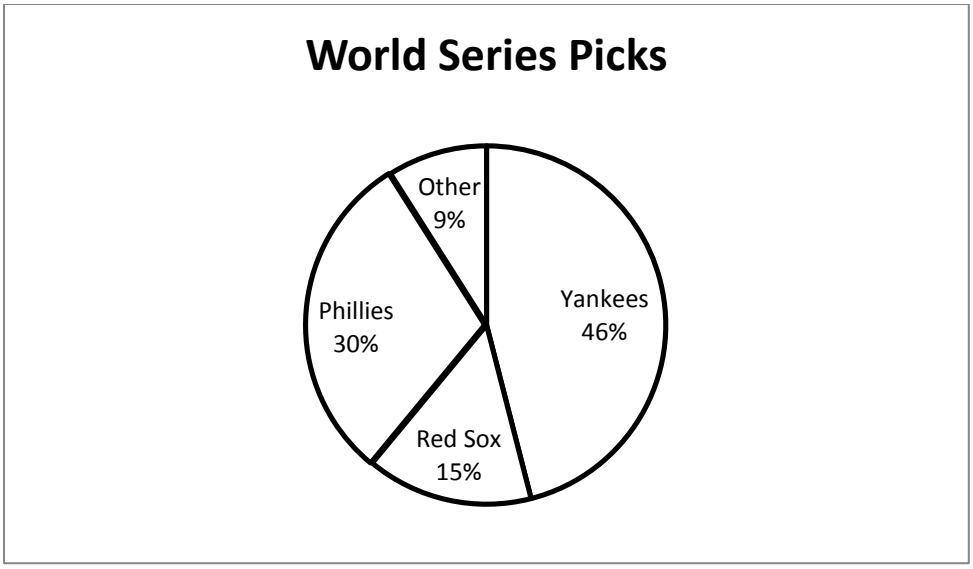
33. In which quadrant would the point (3, -4) lie?

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

34. If the bill for a dinner was \$82.48 and you wanted to leave a 20% tip, how much would that add to the bill?

A. \$16.49 B. \$8.25 C. \$98.97 D. \$90.73

35. A survey of 1,500 people was taken to determine who people would like to see in the World Series. The results are shown in the chart below. How many people favored the Yankees?



A. 225 B. 690 C. 810 D. 450

36. Perform the indicated operation: $-2-\sqrt{3^2-(-16)}$.

A. -7 B. 5 C. 10 D. -1

37. Simplify the expression: $ab+3ac-2ab+5ac$.

A. $ab-8ac$ B. $-3ab+8ac$ C. $8ac-ab$ D. $ab+8ac$

38. If you buy a coat for \$122.99 and the original price of the coat was \$154.99, how much of a discount did you get?

A. 20.6% B. 32.0% C. 26.0% D. 40.0%

39. Solve: $15-0.3x=19.2$.

A. -14 B. 1.4 C. -1.4 D. 114

40. Simplify the expression: $-(x+3)+(4+2x)$.

A. $-x+1$ B. $-x-1$ C. $x+1$ D. $x-1$

KEY

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

Websites for Practice:

http://www.testprepreview.com/modules/algebra1.htm

http://www.testprepreview.com/modules/algebra1c.htm

http://www.testprepreview.com/modules/exponents.htm

http://www.testprepreview.com/modules/fractionsandsquareroots.htm

http://www.testprepreview.com/modules/basicoperations.htm

http://www.testprepreview.com/modules/graphs.htm

http://www.testprepreview.com/modules/algebra2.htm

http://www.testprepreview.com/modules/mathematics1.htm

http://www.testprepreview.com/modules/mathematics2.htm

http://www.testprepreview.com/modules/measurement.htm

http://www.algebrahelp.com/

http://amby.com/educate/math/2-2_simp.html

http://amby.com/educate/math/frac-add.html

http://amby.com/educate/math/frac-add.html

http://amby.com/educate/math/frac-mul.html

http://amby.com/educate/math/frac-div.html

http://amby.com/educate/math/4-2_prop.html

http://amby.com/educate/math/integer.html

http://www.khanacademy.org/