

ALGEBRA 1B SUMMER REVIEW

Dear students,

To prepare you for next year's Algebra 1B class, the Math Department requires that you complete a summer review assignment. This review will refresh your skills and prepare you for our Algebra 1B course.

Solve each problem, **showing all your work**. You are expected to spend a minimum of 2 hours on this assignment, but it may require as many as 4 hours if you are not familiar with the material. ALL problems need to be done with all work shown, neat, and stapled. You may print out the summer review and complete the problems on the document itself, or complete the problems on binder paper. The completed assignment is due the first day of class. We will quickly review the assignment on that day, so bring any questions you may have to the first class. We will be having an assessment on this material in the second class, so I would encourage you to review your work the day before classes start to have it fresh in your mind if you completed the assignment early in the summer. All problems on this review should be material that you have already mastered. If there is anything that does not look familiar, please make sure you get the proper help during the summer.

A great resource to help you with any concepts you may be struggling with is Khan Academy.

If you have any questions, you may reach out to the Math Department Chair, Mrs. Brand, at: **cbrand@moreaucatholic.org**

See you in August!

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Name: _____

Follow the directions for each question and box your final answer.

Simplify. Use Order of Operations.

1) $13 + 54 \div 9$

2) $12 + 3 - 7 \cdot 2 + 8$

3) $32 \div 8 + 4 \cdot 3$

Add the fractions and put in simplest form.

4) $\frac{3}{4} + \frac{1}{2}$

5) $\frac{1}{3} + \frac{2}{3}$

6) $\frac{2}{5} + \frac{1}{6}$

7) $\frac{3}{10} + \frac{3}{4}$

8) $\frac{4}{9} + \frac{2}{3}$

9) $\frac{1}{8} + \frac{3}{8}$

Subtract the fractions and put in simplest form.

10) $\frac{9}{10} - \frac{3}{10}$

11) $\frac{2}{3} - \frac{1}{5}$

12) $\frac{19}{20} - \frac{3}{4}$

13) $\frac{13}{15} - \frac{1}{3}$

14) $\frac{9}{8} - \frac{1}{8}$

15) $1\frac{3}{8} - \frac{1}{4}$

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Multiply the fractions and put in simplest form.

$$16) \frac{2}{3} \cdot \frac{1}{8}$$

$$17) \frac{9}{10} \cdot \frac{20}{27}$$

$$18) \frac{2}{5} \cdot \frac{3}{4}$$

Divide the fractions and put in simplest form.

$$19) \frac{9}{20} \div \frac{3}{5}$$

$$20) \frac{1}{2} \div \frac{3}{4}$$

$$21) \frac{7}{8} \div \frac{7}{10}$$

Evaluate the expression.

$$22) \frac{a+3b}{5} \text{ for } a=4 \text{ and } b=2$$

$$23) \frac{3x}{2y+1} \text{ for } x=7 \text{ and } y=3$$

Multiply:

$$24) -4(x-3y-2z)$$

$$25) 3.1(-1.2x+3.2y-1.1)$$

$$26) \frac{2}{3}(3a-6b+9)$$

$$27) -\frac{4}{5}\left(-\frac{1}{2}x+\frac{2}{3}y-1\right)$$

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Simplify.

$$28) 2x - 4y - 3(7x - 2y)$$

$$29) 15x - y - 5(3x - 2y + 5z)$$

$$30) (3x + 2y) - (5x - 4y)$$

$$31) 6m - n - 4m - (5n - m)$$

Solve and check each equation. NOTE: you may get none or infinitely many solutions.

$$32) x + 10 = -22$$

$$33) 4 - 2x = 16$$

$$34) 3 - x = 2x - 9$$

$$35) 2x + 7 + 3x = -8$$

$$36) 3(x - 7) = -4(x + 1)$$

$$37) 2(x + 2) - 2(x - 6) = 16$$

Solve each inequality and graph the solution.

$$38) 2x - 3 < 5$$

$$39) 2x \geq 5x + 6$$

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Solve each equation. Check your answer(s).

40) $|x| = 7$

41) $|x| = -8$

42) $|2x + 3| = 15$

43) $|3x - 12| - 6 = 9$

Find the slope of the line through each pair of points.

44) (2, 3) and (1, -2)

45) (-5, 6) and (-1, 12)

46) (4, 1) and (4, -1)

Write the equation of the line in slope-intercept form given the slope and the point on the line.

47) slope = 2; (-2, 8)

48) slope = $\frac{2}{3}$; (6, 1)

49) slope = -5; (0, 9)

Write the equation of the line in slope-intercept form that passes through each pair of points.

50) (3, 7) and (5, 11)

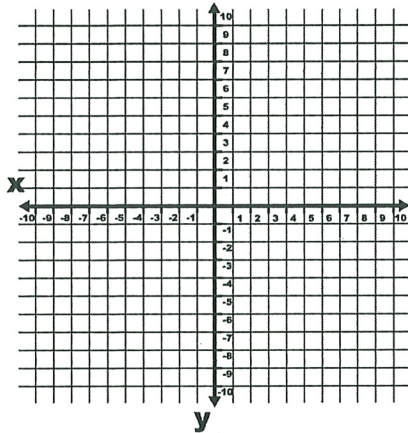
51) (-6, 7) and (-9, 8)

52) (-3, 6) and (15, -6)

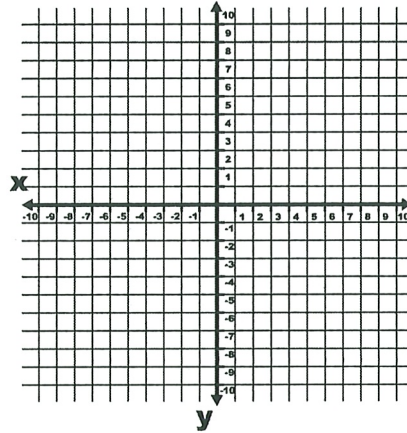
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Graph each line.

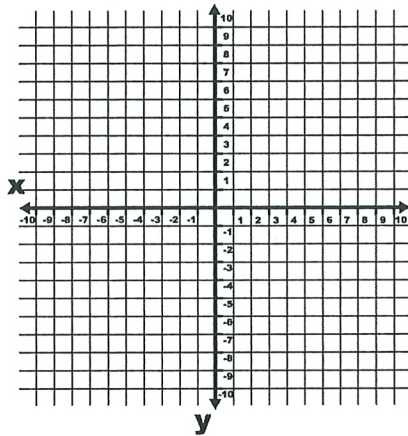
53) $y = x - 4$



54) $y = -2x + 1$



55) $-2y = x - 6$



Write the equation of the line that is parallel to the given line and has the following information.

56) $y = 2x + 3$ and passes through $(1, 9)$

57) $y = -\frac{3}{4}x + 1$ and passes through $(8, -1)$

Solve the word problem.

58) Jeff bought flowers for his mom. He bought 24 flowers that were a combination of roses and tulips. The roses cost \$3.00 each and the tulips cost \$1.25 each. He spent \$58.00. How many of each flower did he buy?