

St. Edmund Preparatory High School
Mathematics Department

Pre-Algebra Summer Assignment
(Freshmen)

Name: _____

All incoming freshmen who will be taking Algebra are required to complete this assignment. Answer all questions. In the spaces provided, clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. You may use a calculator. All students will be tested on this material in September.

Find each sum, difference, product or quotient.

1. $-15 + 6$	2. $(-18) - (-3)$	3. $(-9)^2$
4. $20 + (-7)$	5. $11(-8)$	6. $-\frac{22}{11}$
7. $(-15)(-2)$	8. $\frac{1}{7} + \frac{5}{7}$	9. $48 - 55$
10. $(-\frac{1}{2}) - (-\frac{3}{4})$	11. $\sqrt{49}$	12. $\frac{10.5}{-1.2}$

Find each sum, product or quotient and write your answer as a fraction in simplest form.

13. $\frac{2}{21} + \frac{1}{3}$	14. $\frac{1}{9} \times \frac{3}{4}$	15. $-\frac{2}{21} \div (-\frac{2}{15})$
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Determine whether the number is *rational* or *irrational* and round it to the *nearest hundredth*.

16. $-\frac{3}{7}$	17. $\sqrt{3}$
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- a. Express each percent as a fraction in simplest form.
b. Express each percent as a decimal.

18. 20%	19. 75%	20. 140%
a.	a.	a.
b.	b.	b.

Find the number that satisfies the question.

21. 50% of what number is 31?	22. What number is 110% of 51?
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Order the following numbers from least to greatest.

23. $4\frac{4}{5}$, 4.85, $2\frac{5}{8}$, 2.6	24. 0.5, $-\frac{1}{7}$, -0.2 , $\frac{1}{3}$
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Show all work necessary to solve the following questions.

<p>25. James answered 14 items correctly on a 16 item quiz. What percent did he answer correctly?</p>	<p>26. Emily made 75% of the baskets she attempted. If she made 9 baskets, how many attempts did she make?</p>
<p>27. A parallelogram has side lengths of 7 inches and 11 inches. Draw, label and find the perimeter of this parallelogram.</p>	<p>28. A circle has a radius of 2 meters.</p> <p>a) Find the exact circumference of this circle in terms of π.</p> <p>b) Find the area of this circle, to the nearest square meter.</p>

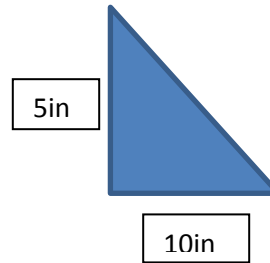
29. List the *integers* that satisfy the following inequalities.

a. $-2 \leq x \leq 4$

b. $-4 < x < 3$

30.

- a. Find the area of the right triangle.
b. Find the length of the hypotenuse to the *nearest tenth of an inch*.



31. Find the volume of a rectangular prism that is 10 cm long, 3 cm wide, and 2 cm high. Please draw and label the prism.

32. Find the surface area of a rectangular prism that is 6 ft long, 2 ft wide, and 5 ft high. Please draw and label the prism.

33. The width of a rectangle is 3 inches less than twice the length. If the length of the rectangle is represented by L , write an algebraic expression to represent the width.

34. Elizabeth is x years old. Her brother Jim is 2 years older than 3 times Elizabeth's age. Write an algebraic expression to represent Jim's age.

<p>35. At a Fourth of July barbecue, Mr. Adams cooked 3 times as many cheeseburgers as hamburgers. If he cooked a total of 72 burgers, how many of each did he make?</p>	<p>36. In last year's graduating class, there were 30 more boys than girls. There were a total of 180 graduates. How many boys are in the class? How many girls are in the class?</p>
<p>37. Find the mean, median and mode for the set of data.</p> <p>{10, 11, 18, 24, 30}</p>	<p>38. Find the mean, median and mode for the set of data.</p> <p>{4, 8, 9, 9, 10, 14, 16}</p>
<p>39. The equation of a line is $y = 3x + 2$.</p> <p>a) What is the slope of the line?</p> <p>b) What is the y-intercept?</p>	<p>40. The equation of a line is $6x + 2y = 8$.</p> <p>a) What is the slope of the line?</p> <p>b) What is the y-intercept?</p>

41. Solve for the variable.

$$3x + 8 = 29$$

42. Solve for the variable:

$$2x + 3x - 4x = 18$$

43. Solve for the variable:

$$10x + 48 = 15x + 36$$

44. Solve for the variable.

$$\frac{x}{2} = \frac{x-4}{3}$$

45. Use the grid below to draw the graph of the following equation.

$$y = 2x - 5$$

