Roman Catholic High School
Summer Science/Math Assignment
9th Grade (Class of 2026)

Dear Parents/Guardians,

In a couple of months, your sons will be starting their high school careers at Roman Catholic High School. Incoming freshmen will be rostered for either the math-based science course Physics First or Biology. In order to facilitate their transition to high school, ***all*** incoming freshmen will be required to complete a Math Readiness Summer Packet for their science course.

The attached packet is for students to complete over the summer and bring with them at the beginning of the school year. The packet is designed to help reinforce course material and help teachers of Science courses gauge their students' math ability as it relates to the Science curriculum. Students are to try their best and to note which material they are having difficulty with as well as material they have never been exposed to in grade school.

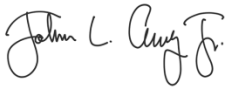
Instructions for Assignment:

- All work is to be completed on loose leaf.
- Final answers for each calculation problem should be boxed.
- Graphing problems must be completed on graph paper.
- Since each lesson in the course contains some kind of mathematical reference, this packet will be referred to during the entire school year. We advise all students to secure this packet.
- This packet is due to your son's Science Teacher by **Monday, September 19th.**

Each section of the packet is clearly headed, followed by instructions, and a Khan Academy video explaining how to solve each problem or expression. For further clarification, you can create a Khan Academy account at www.khanacademy.org/math to view endless math equations, problems, and expressions. Additionally, to facilitate your son's ability to use the links, we have included a digital copy of this document on our website. Please visit www.romancatholichs.com and Summer Assignments can be found under the "Academics" tab.

If you have any questions concerning this assignment, please do not hesitate to reach me at jcurry@romancatholichs.com or our Assistant Principal for Academic Affairs, Mr. Buck at cbuck@romancatholichs.com.

Best wishes for an enjoyable summer!



Mr. John Curry
Principal

Freshman Science Summer Packet

Basic Multiplying & Dividing. Evaluate.

Khan Academy Video: Multiplying Positive & Negative Numbers

1. $(-2)(-4) =$ 2.) $15 \div 3 =$ 3.) $8(-1) =$ 4.) $(-21) \div (-7) =$

5.) $26(-12) =$ 6.) $(-300) \div 6 =$ 7.) $(-73)1 =$ 8.) $(-72) \div (-9) =$

9.) $7(3) =$ 10.) $0 \div (-20) =$

Percents. Read the word problem then solve to find the correct percentage.

Khan Academy Video: Finding a Percent

11.) Dean ordered a set of beads. He received 70 beads, and 10% of them were orange. How many orange beads did Dean receive?

12.) The art club had an election to select a president. 9 out of the 12 members of the art club voted in the election. What percentage of the members voted?

13.) A school assembly had 30 students in attendance, and 20% of them were first-graders. How many first-graders were at the assembly?

14.) Brenda's Diner sold 10 milkshakes last week. 40% of the milkshakes had whipped cream on top. How many milkshakes with whipped cream were sold?

15.) At the sewing store, Ava bought a bag of mixed buttons. She got 21 buttons in all. 21 of the buttons were large. What percentage of the buttons were large?

16.) Ben earns $12,800 a year. About 15% is taken out for taxes. How much is taken out for taxes?

17.) What percentage of 80 is 50?

18.) 20 is what percentage of 25?

19.) What is 60% of 0?

20.) Find 10% of the number 50.

Integers. Evaluate each expression.
Khan Academy: Adding Numbers with Different Signs

21.) 6 + (-12) + (-2) =

22.) 3 - (-13) =

23.) _____ * (-8) = 32

24.) (-190) ÷ 2 =

25.) (-10) ÷ ___ = 5

26.) (-16) - (-27) =

27.) __ * (-9) = (-54)

28.) (-60) ÷ (-12) =

29.) 8 + 15 + 14 =

30.) (-5) - 8 =

31.) (-5) * 5 =

32.) (-4) * (-9)=

Exponents. Evaluate each expression- **Show all work**
Khan Academy: Introduction to Scientific Notation

33.) 10^{3} =

34.) 10^{-3} =

35.) $(1/2)^{5}$ =

36.) 10^{9} =

37.) 1^{0} =

Write the following expressions using exponents.
38.) 45 * 45 * 45 * 45 =

39.) (– 0.7) * (– 0.7) * (– 0.7) * (– 0.7) * (– 0.7) * (– 0.7) * (– 0.7) * (– 0.7) =

Evaluate.
40.) $10^{4} + 0^{12}$ =

41.) $2^{6} \div 4^{2}$ =

42.) $0^{7} - 1^{15}$ =

43.) $9^{3} \div 18$ =

Measurement Conversions. Convert.- **Show all work**
Khan Academy: Conversion Between Metric Units

44.) 37 cm = _____mm

45.) 20 m = _____cm

46.) 34 m = _____ mm

47.) 20 m = _____ km

48.) 29 km = _____ m

49.) 36 km = _____ cm

50.) 100 g = _____ kg

51.) 24 kg = _____ g

52.) 8.3 g = _____ kg

Metric System. Answer each.
Khan Academy: Metric System—Units of Distance

53.) The metric unit of measurement for mass is _____.

54.) The metric unit of measurement for weight is _____.

55.) The decimal equivalent for a meter is _____.

56.) The decimal equivalent for a centimeter is _____.

57.) When you move the decimal point two places to the left to convert a metric unit, it is the same as _____ the measurement by 100.

58.) When you move the decimal point two places to the right to convert a metric unit, it is the same as _____ the measurement by 100.

Scientific Notation. Convert the following numbers into scientific notation.
Khan Academy: Scientific Notation

59.) 3,400 = _____ 60.) 0.000023 = _____ 61.) 4.50 =_____

62.) 1,000,000 = _____ 63.) 0.00671= _____

Convert the following numbers into standard notation.
64.) $2.30 * 10^4$ = _____ 65.) $1.76 * 10^3$= _____ 66.) $1.901 * 10^{-7}$=_____

67.) $1.76 * 10^0$ = _____ 68.) $5.40 * 10^1$= _____

Fractions (adding and subtracting, multiplying and dividing). Evaluate each.
Khan Academy: Adding Fractions with Unlike Denominators
Khan Academy: Subtracting Fractions with Unlike Denominators

69.) 6/12 + 2/10= 70.) 4/8 + 3/4 = 71.) 1/2 * 2/5 = 72.) 1¼* 3⅝ =

73.) 1/4 ÷ 9/10 = 74.) 8/10 ÷ 2/5 = 75.) 12/25 - 11/25 = 76.) 1⅜- ⅞ =

Order of Operations. Evaluate each.

Remember, PEMDAS (Please Excuse My Dear Aunt Sally) stands for: Parentheses Exponents Multiplication Division Addition Subtraction

Khan Academy: Order of Operations

77.) $14 + 18 \div 2 * 18 =$

78.) $15 * 18 + 12 \div 3 + 9 =$

79.) $(11 + 42 - 5) \div (11 - 4) =$

80.) $(10 + 59 - 3^2) \div (24 - 4) =$

Distributing. Simplify distributing (student may have to use multiplication of binomials/FOIL)

Khan Academy: Multiplying Binomials

81.) $2(x + 3) =$

82.) $2(x + 3 + y) =$

83.) $-5(2x - 3) =$

84.) $-5(-8w + p) =$

85.) $20 + 32w =$

86.) $84 + 36z =$

87.) $(2x - 6)(5x + 7) =$

88.) $(y - 10)(4y + 2) =$

Word Problems

89.) A car travels at 40 km/hr for 2 hours and at 55 km/hr for 2 hours. How far has the car traveled? What is its average velocity?

90.) How long will it take an airplane to travel 1,250 kilometers if it is traveling at 150 km/hr?

91.) A car is traveling at 5 m/s. How far has it gone in 12 seconds?

92.) A train travels 600 kilometers in 1 hour. What is the train's velocity in meters/second?

93.) There were 32 students in Jaden's class eating lunch. Then, more students joined Jaden's class. Now there are 86 total students eating lunch. How many students joined Jaden's class?

94.) Kari, Katelynn, and Morgan went out for dinner and split the bill evenly. The total bill was $46.68. How much did each pay?