

Name _____

Date _____

Summer Math
Completed 7th grade – Entering 8th grade

Instructions: Please complete the following problems showing all work. If you use scratch paper to work the problems out, please number the problems on the paper so that the work can be easily associated with a problem. This packet is due on the first day of school and will count as your first daily grade of the semester. This will be a completion grade. Full credit will not be given if work is not shown where applicable. Once your Summer Work is graded for completion, you will have the opportunity to review the packet with your teacher. Your first quiz of the semester will cover the topics in this packet.

If students are unclear as to solving a problem, they are welcome to check www.coolmath.com as a resource or www.Khanacademy.org for short videos which will explain the process. There are many other web resources, but those are two that have proven to be excellent. Your child should work through the problems until the correct solution is found, being sure to show all of the correct work along with this solution.

Section 1**Order of Operations**

Problems:

Answers:

1.	Evaluate the expression. $4 - 6 \div 3 + 8$	1.
2.	Evaluate the expression. $(4 + 12) \div 4 - 1$	2.
3.	Evaluate the expression. $5 \cdot [38 - (18 + 5)]$	3.
4.	Evaluate the expression. $4(13 - 6.1)$	4.
5.	You buy a pattern and enough material to make 2 pillows. The pattern costs \$4. Each pillow requires \$4.84 worth of fabric and a button that costs \$0.76. Find the total cost.	5.

Section 2

Operations with Rational Numbers

Problems:

Answers:

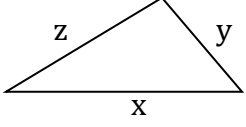
1.	Evaluate the expression when $x = -28$ and $y = -7$. $x + 11 + y$	1.									
2.	Find the sum. $-16 + 8$	2									
3.	Find the sum. $-2 + 5$	3.									
4.	Find the sum. $-5 + (-13)$	4.									
5.	Find the sum. $-1.2 + 5.4$	5.									
6.	Find the difference. $5 - 8$	6.									
7.	Find the difference. $8 - (-11)$	7.									
8.	Find the difference. $-3 - (-7)$	8.									
9.	Find the difference. $-6 - 9$	9.									
10.	Find the difference. $-7.6 - 9.5$	10.									
11.	Find the product. $-8(-14)$	11.									
12.	Find the product. $-8(9)$	12.									
13.	Find the product. $-0.1(15.1)$	13.									
14.	Find the quotient. $-36 \div -9$	14.									
15.	Find the quotient. $-84 \div 12$	15.									
16.	Suppose an underwater volcano used to have a summit elevation of -214 meters. Now the summit elevation is -159 meters. By how many meters did the elevation of the volcano change?	16.									
17.	<p>You own shares of stock in a computer company and in a utility. The value of the shares changes over time. The table shows the number of shares of each type of stock you own and the change over a one-year period. What was the total change in the value of your shares of stock?</p> <p style="text-align: center;"><i>Stock Portfolio</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Stock</th> <th>Shares</th> <th>Change in value of one share</th> </tr> </thead> <tbody> <tr> <td>Computer</td> <td>181</td> <td>Decreased \$2</td> </tr> <tr> <td>Utility</td> <td>121</td> <td>Increased \$3</td> </tr> </tbody> </table>	Stock	Shares	Change in value of one share	Computer	181	Decreased \$2	Utility	121	Increased \$3	17.
Stock	Shares	Change in value of one share									
Computer	181	Decreased \$2									
Utility	121	Increased \$3									

Section 3**Solving Equations**

Problems:

Answers:

1.	Find x. Show your steps used to solve. $x + 22 = -7$	1.
2.	Find x. Show your steps used to solve. $23 + x = 4$	2.
3.	Find x. Show your steps used to solve. $28 = x - 10$	3.
4.	Find x. Show your steps used to solve. $-9x = 36$	4.
5.	Find x. Show your steps used to solve. $-68x = -17$	5.
6.	Find x. Show your steps used to solve. $10 = \frac{x}{2}$	6.
7.	Find x. Show your steps used to solve. $\frac{x}{-3} = 14$	7.
8.	Find x. Show your steps used to solve. $x + 13 = 8.8$	8.
9.	Find x. Show your steps used to solve. $-0.6x = -5.88$	9.
10.	Find x. Show your steps used to solve. $4x + 4 = 0$	10.
11.	Find x. Show your steps used to solve. $2x + 7 = -11$	11.
12.	Find x. Show your steps used to solve. $\frac{x}{7} - 4 = 7$	12.
13.	Find x. Show your steps used to solve. $8 - 4x = 20$	13.

14.	Find x . Show your steps used to solve. $4x + 11 = -53$	14.
15.	Find the value of x in cm for the given triangle. Perimeter = 66 cm  $y = 13 \text{ cm}$ and $z = 25 \text{ cm}$ (Triangle not necessarily drawn to scale.)	15.
16.	During hibernation, the weight of a small animal decreases by about 0.24 pound. After hibernation, the animal weighs about 0.59 pound. Find the weight in pounds of the animal before hibernation.	16.
17.	A group of 8 friends takes a white-water rafting trip. The total price of the trip before any discounts is \$800. Each person in the group receives a student discount. The total price with the discount is \$744. How much is the discount per person?	17.

Section 4

Inequalities

Problems:

Answers:

1.	Solve the inequality. Show your steps used to solve. $-9 > y - 17$	1.
2.	Solve the inequality. Show your steps used to solve. $-8 \leq y + 14$	2.
3.	Solve the inequality. Show your steps used to solve. $11 + n - 25 \leq 41$	3.
4.	Solve the inequality. Show your steps used to solve. $\frac{n}{-14} > 10$	4.
5.	Solve the inequality. Show your steps used to solve. $\frac{a}{4} < -9$	5.
6.	Solve the inequality. Show your steps used to solve. $-3m \geq 26.1$	6.

7.	Solve the inequality. Show your steps used to solve. $-7m \geq -55.3$	7.
8.	Write an inequality to represent the situation. You must be at least 48 inches tall to ride the roller coaster.	8.
9.	Write an inequality to represent the situation. A truck can tow a maximum weight of 6700 pounds.	9.

Section 5

Factors and Multiples

Problems:

Answers:

1.	List all of the factors of 30.	1.
2.	List all of the factors of 18.	2.
3.	Tell whether the number 48 is prime or composite.	3.
4.	Write the prime factorization of 180 with exponents.	4.
5.	Write the prime factorization of 250.	5.
6.	Find the greatest common factor of $75xy^2$ and $9x^2y^3$.	6
7.	Find the greatest common factor of 28 and 40.	7.
8.	Find the least common multiple of the numbers 8 and 15.	8.
9.	Find the least common multiple of the numbers 7 and 10.	9.
10.	A choir director wants to divide a choir into smaller groups. The choir has 21 sopranos, 84 altos, and 133 tenors. Each group will have the same number of each type of voice. Assuming the choir director divides the choir into the greatest number of groups possible, use the greatest common factor to determine how many altos will be in each group.	10.
11.	Use the least common denominator to determine which fraction is greater. $\frac{7}{8}$ or $\frac{7}{9}$	11.

Section 6

Fractions, Decimals, and Percents

Problems:

Answers:

1.	Write $\frac{16}{25}$ as a decimal.	1.
2.	Write $\frac{27}{50}$ as a decimal.	2.
3.	Write $\frac{7}{6}$ as a decimal.	3.
4.	Write 21% as a fraction in simplest form.	4.
5.	Write 44% as a fraction in simplest form.	5.
6.	Write 6% as a fraction in simplest form.	6.
7.	Write 0.63 as a percent.	7.
8.	Write 8.9 as a percent.	8.
9.	Write $\frac{4}{5}$ as a percent.	9.
10.	Write $\frac{3}{8}$ as a percent.	10.
11.	Write 0.17 as fraction in simplest form.	11.
12.	Write 2.7 as fraction in simplest form.	12. Type equation here.
13.	Of the 50 mammal species found in a national park (A), 35 species belong to the order Rodentia. Of the 54 mammal species found in another national park (B), 42 belong to Rodentia. In which park is the fraction of mammal species belonging to Rodentia greater?	13.
14.	A radio station randomly selects 1 of 20 finalists for a prize. You are one of the finalists for a prize. What is the probability that you will win? Write your answer as a percent.	14.
15.	What is 70% of 42?	15.
16.	What percent of 35 is 133?	16.
17.	60% of what number is 24?	17.
18.	The distance between a planet and its moon on a certain day was about 363,000 kilometers. On that day, a traveling asteroid missed the planet by about 35% of that distance. How far away from the planet was the asteroid at that time (in kilometers)?	18.
19.	A car salesperson earns a 9.5% commission on every car sold. The salesperson sells a car for \$17,600. What is the commission (in dollars)?	19.

Section 7**Fractions**

Problems:

Answers:

1.	Find the sum. Simplify if possible. $\frac{12}{13} + \frac{5}{13}$	1.
2.	Find the sum. Simplify if possible. $\frac{10}{17} + \frac{6}{17}$	2.
3.	Find the sum. Simplify if possible. $\frac{5}{11} + \frac{1}{4}$	3.
4.	Find the sum. Simplify if possible. $\frac{1}{4} + \left(-\frac{1}{5}\right)$	4.
5.	Find the sum. Simplify if possible. $6\frac{2}{9} + 10\frac{5}{9}$	5.
6.	Find the sum. Simplify if possible. $-2\frac{6}{7} + \left(-4\frac{4}{5}\right)$	6.
7.	Find the sum. Simplify if possible. $\frac{9a}{36} + \frac{11a}{36}$	7.
8.	Find the difference. Simplify if possible. $\frac{2}{8} - \frac{4}{8}$	8.
9.	Find the difference. Simplify if possible. $-\frac{5}{17} - \frac{4}{17}$	9.
10.	Find the difference. Simplify if possible. $-\frac{4}{5} - \frac{3}{7}$	10.
11.	Find the difference. Simplify if possible. $\frac{3}{4} - \frac{5}{8}$	11.

12.	Find the difference. Simplify if possible. $-3\frac{5}{6} - 2\frac{3}{4}$	12.
13.	Find the difference. Simplify if possible. $-\frac{28}{5b} - \left(-\frac{3}{5b}\right)$	13.
14.	Find the difference. Simplify if possible. $\frac{a}{2} - \frac{a}{12}$	14.
15.	Simplify the expression. $\frac{m}{24} \cdot \left(-\frac{16}{17}\right)$	15.
16.	Simplify the expression. $\left(-\frac{x}{3}\right) \cdot \left(-\frac{9}{10}\right)$	16.
17.	Simplify the expression. $\left(-\frac{4}{5}\right) \cdot \frac{2}{7}$	17.
18.	Simplify the expression. $\left(-\frac{4}{7}\right) \cdot (-21)$	18.
19.	Simplify the expression. $1\frac{21}{23} \cdot 2\frac{5}{11}$	19.
20.	Find the quotient. Simplify if possible. $\left(-\frac{8}{9}\right) \div 18$	20.
21.	Find the quotient. Simplify if possible. $\left(-\frac{7}{6}\right) \div \frac{8}{9}$	22.
23.	Find the quotient. Simplify if possible. $\frac{7}{13} \div 2\frac{1}{26}$	22.
24.	Find the quotient. Simplify if possible. $5\frac{4}{7} \div 2\frac{1}{5}$	23.

25.	Evaluate the expression. Simplify if possible. $\frac{8}{15} \div \left(\frac{6}{15} - \frac{4}{45} \right)$	25.
26.	You set up an in-line skating course 35 feet long to practice weaving around cones. You want a cone every $2\frac{1}{2}$ feet, but not at the start or end of the course. How many cones will you need?	26.