Name _____ Date _____

Grade 7 End-of-Year Packet

ALWAYS show ALL STEPS of your work! Attach your work on a separate sheet of paper!

1. Write as a decimal. $\frac{10}{20}$	**2.** Write as a decimal. $11\frac{2}{3}$
3. Simplify. $-\|54\| \cdot (-6)$	**4.** Simplify. $[-(-8.6)] - \|4\| \div 2$
5. Find the value of n. $n - 1 + \frac{9}{28} = -1$	**6.** Find the value of n. $\frac{17}{55} = \frac{85}{n}$
7. Order from least to greatest. $\frac{2}{3}, -2\frac{3}{8}, \frac{5}{12}, -5\frac{1}{6}$	**8.** Compute. $-4\frac{2}{3}(2\frac{1}{4}) + 3\frac{5}{6}$
9. Compute. $-10\frac{1}{5} \div (-3\frac{3}{4})$	**10.** What is a rational number between $\frac{13}{15}$ and $\frac{14}{15}$
11. What is a rational number between -2.88 and $-2\frac{5}{6}$	**12.** Simplify using a single exponent. $\frac{3^4 \cdot 3^2}{3^3}$

13. Simplify. $\frac{(3x^2y)^4}{9xy^2}$	**14.** Simplify. $6.8\,(3-0.5)^2 + 2^{-2} \cdot 12$
15. Talia divides her rectangular garden into 6 equal sections. The garden is $9\frac{3}{5}$ ft long and $6\frac{7}{8}$ ft wide. What is The area of each section?	**16.** Write 640,000,000 in scientific notation.
17. Write 0.00000000706 in scientific notation.	**18.** Multiply. Write the answer in proper scientific notation. $(5.2 \times 10^{-4})\,(6 \times 10^{12})$
19. Divide. Write the answer in proper scientific notation. $(8.16.2 \times 10^{9}) \div (3.4 \times 10^{3})$	**20.** Find the length of the leg of the right triangle. c = ? b = 40 ft, c = 50 ft
21. Find the length of the hypotenuse. A = 15 cm, b = 36 cm, c = ?	**22.** Name the two integers the square root lies between. $\sqrt{150}$
23. Name the two integers the square root lies between. $-\sqrt{68}$	**24.** Write the word phrase as a mathematical expression *"six minus one-fourth of the sum of triple the square of a number plus twelve"*
25. Simplify by combining like terms. $8n + 6(3r - 2n)$	**26.** Simplify by combining like terms. $2x^2 + x(x + y) + (3x)\,(2y)$

27. a = $\frac{3}{4}$; b = 0.2, n = $\frac{1}{20}$ What is $a + b + n$?	28. a = $\frac{3}{4}$, c = -10, n = $\frac{1}{20}$ What is $\frac{(a-c)^2}{n}$
29. Solve. $18 = \frac{2}{n} + 6$	30. Solve. $\frac{1}{2}z + 4 = 12$
31. Solve. $7a + 0.4 = 2(a - 5)$	32. Rename the repeating decimal $0.\overline{8}$ as a fraction.
33. Solve. $2\|x+7\| = 10$	34. Solve for the missing variable. $A = \frac{1}{2}bh$, when A = 64 ft^2 and h = 16 ft
35. Solve for the missing variable. C = 2πr, when C = 88 cm. (Use $\frac{22}{7}$ for π)	36. Write an inequality for the word phrase. *"six less than three times a number is at least -1"*
37. True or false when y = $\frac{1}{3}$? 6(2 + y) < 14	38. True or false when x = 12? $-7 + \frac{1}{3}x > -10$
39. Solve. $7.4g - 5 - 2g \geq g - 1.7$	40. Solve. $6p - 3\frac{1}{3} < 8p + \frac{3}{4}$
41. Solve by substitution or elimination. $-2x + y = 1$ $-3x + y = -1$	42. What is the unit rate? 8 oranges for $1.52
43. What is the unit rate? 1750 calories for 3.5 servings	44. Find two ratios equal to the given ratio. 2.5 : 3.75
45. Compare. Write <, >, or = $\frac{12}{54}$ ——— $\frac{8}{36}$	46. Solve the proportion. $\frac{\frac{3}{3}}{y} = \frac{2\frac{1}{4}}{6}$
47. On a map, $\frac{1}{4}$ inch equals 50 miles. If two cities are 1,60 miles apart, how many inches apart are they on the map?	48. Write as a percent. 4.9

49. Write as a percent. $\frac{8}{20}$	50. Write as a percent. $1\frac{7}{8}$
51. Write as a fraction in simplest form and as a decimal. 125%	52. Write as a fraction in simplest form and as a decimal. $\frac{1}{10}\%$
53. Write as a fraction in simplest form and as a decimal. 3.2 %	54. Find 60% of 25
55. Find $8\frac{1}{2}\%$ of 360.	56. What percent of 1.2 is 4.8?
57. 70 is what percent of 210?	58. Find b. 11 is 22% of b.
59. Find b. 792 is 35.2% of b.	60. A. Calculate the percent of change. Original: 12.50 New: 16.25 B. Is it a percent increase or decrease?
61. A. Calculate the percent of change. Original: $14\frac{5}{8}$ New: $9\frac{3}{8}$ B. Is it a percent increase or decrease?	62. Calculate the simple interest. Principal: \$2370 Simple Interest Rate: 5.5% Time: 3 years
63. Find the range, mean, median, and mode of the following quiz scores> 77, 83, 95, 77, 86	64. What type of graph best displays the breakdown of a total monthly budget?
65. Calculate the slope of the line containing the two points (0, -2) and (-1, 5).	66. Write in slope-intercept form. $x - y = 11$
67. Find the x- and y- intercepts. $y = 2x + 5$	68. Write the equation of a line that is parallel and one that is perpendicular to $y = \frac{1}{3}x - 3$
69. Find the area and circumference of a circle which has a radius of 15 i n.	70. Between which two whole numbers is $\sqrt{60}$?