Unit 1 Practice Test: The Number System **Name:** Key

7th Grade Accelerated Math

For 1–24, evaluate each completely. Show work on blank piece of paper when possible.

1. $(-5)(-7)(2)$

#1 answer: 70

2. $9 - 13$

#2 answer: -4

3. $-6 - 11$

#3 answer: -17

4. $-14 + (-5)$

#4 answer: -19

5. $-4 - (-3)$

#5 answer: -1

6. $-|-8 + 5|$

#6 answer: -3

7. $-6 \bullet 5$

#7 answer: -30

8. $-28 \div -4$

#8 answer: 7

9. $48 \div -6$

#9 answer: -8

10. $-14 + 8 - 5 - 8$

#10 answer: -19

11. $-5 - 7 + 3 + 3$

#11 answer: -6

12. -7^2

#12 answer: -49

13. $\frac{-72}{-9}$

#13 answer: 8

14. $-a + -15$
$a = -2$

#14 answer: -13

15. $a - b$
$a = -9, b = -7$

#15 answer: -2

16. $a^2 - 49$
$a = -7$

#16 answer: 0

17. $-a - b$
$a = 4, b = |-3|$

#17 answer: -7

18. $(-7)^2 \bullet -2 + 8$

#18 answer: -90

19. $2\frac{1}{8} + \frac{3}{4}$

#19 answer: $\frac{23}{8} = 2\frac{7}{8}$

20. $2\frac{1}{8} \bullet \frac{4}{5}$

#20 answer: $\frac{17}{10} = 1\frac{7}{10}$

21. $-2\frac{1}{8} \div 6\frac{1}{2}$

#21 answer: $\frac{-17}{52}$

22. $-3\frac{1}{6} + 3\frac{3}{4}$

#22 answer: $\frac{7}{12}$

23. $-8 \div -4\frac{4}{7}$

#23 answer: $\frac{7}{4} = 1\frac{3}{4}$

24. $-5\frac{1}{2} - 2\frac{3}{5}$

#24 answer: $\frac{-81}{10} = -8\frac{1}{10}$

25. Julie is a cheerleader and is making a banner to use at games. She needs $1\frac{8}{9}$ of a yard of material for the banner, but she only has $\frac{3}{4}$ of a yard right now. Distinguish how much more material she needs? Show your work for full credit!

$1\frac{8}{9} - \frac{3}{4} \rightarrow \frac{17}{9} - \frac{3}{4} \rightarrow \frac{68}{36} - \frac{27}{36}$ #25 answer: $\frac{41}{36} = 1\frac{5}{36}$ yds

26. An Italian sausage is 10 inches long. Distinguish how many pieces of sausage can be cut from the 10-inch piece of sausage if each piece is to be two–thirds of an inch? Show your work for full credit!

$10 \div \frac{2}{3}$

$5\ 10 \cdot \frac{3}{2}$ $\rightarrow$ 15

#26 answer: 15 pieces that are $\frac{2}{3}$ in

27. Ryan is planting a garden that takes up $\frac{1}{4}$ of his backyard. He plans to plant flowers in only $\frac{1}{3}$ of the garden. Distinguish how much of his backyard will be made up of flowers? Show your work for full credit!

$\frac{1}{4} \cdot \frac{1}{3}$

#27 answer: $\frac{1}{12}$ of his backyard are flowers.

28. **Fill in the table below:**

Fraction	Decimal	Percent
$\frac{3}{4}$	.75	75%
$\frac{9}{100}$	.09	9%
$\frac{67}{100}$	0.67	67%
$\frac{1}{9}$	$.\overline{1}$	$11.\overline{1}\%$
$3\frac{1}{2}$	3.5	350%

For 29–40, evaluate each completely.

29. $\sqrt{81}$ #29 answer: 9

30. $-\sqrt{36}$ #30 answer: -6

31. $\sqrt[3]{27}$ #31 answer: 3

32. $-\sqrt[3]{125}$ #32 answer: -5

33. $\sqrt{-25}$ #33 answer: can't do or 5i

34. $\sqrt{289}$ #34 answer: 17

35. $\sqrt[3]{-125}$ #35 answer: -5

36. $\sqrt[3]{216}$ #36 answer: 6

37. $\pm\sqrt{\frac{64}{100}}$ #37 answer: $\pm\frac{4}{5}$

38. $\sqrt{\frac{16}{49}}$ #38 answer: $\frac{4}{7}$

39. Find the square roots of 64 #39 answer: ± 8

40. $\sqrt{3(4)-16\div4+9\cdot2-1}$

For 41–43, *estimate each to the nearest tenths place*.

41. $\sqrt{52}$

42. $\sqrt{7}$

43. $\sqrt{97}$

$\sqrt{12-4+18-1}$

$\sqrt{8+18-1}$

$\sqrt{25}$

#40 answer: 5

#41 7.2

#42 2.6

#43 9.8

Order the following from least to greatest.

44. $\sqrt{7}$, 3, π, $\sqrt{5}$, 2, 3.5

#44: $2, \sqrt{5}, \sqrt{7}, 3, \pi, 3.5$

For 45–47, write each of the following numbers in scientific notation.

45. 820,000,000

46. 0.0000065

47. 6.7E-5

#45: 8.2×10^{8}

#46: 6.5×10^{-6}

#47: 6.7×10^{-5}

For 48–50, write each of the following numbers in standard notation.

48. 4.26×10^{-7}

49. 9.2×10^{-5}

50. 2.734×10^{12}

#48: .00000 0426

#49: .00009 2

#50: 2,734,000,000,000

For 51–54, write each answer using scientific notation.

51. $5.8 \times 10^{8} - 2.3 \times 10^{5}$

$5800\times10^{5} - 2.3\times10^{5}$

5797.7×10^{5}

#51: 5.7977×10^{8}

52. $1.8 \times 10^{3} + 5.4 \times 10^{6}$

$1.8\times10^{3} + 5400\times10^{3}$

5401.8×10^{3}

#52: 5.4018×10^{6}

53. $8.4 \times 10^{9} \div 2.1 \times 10^{5}$

#53: 4×10^{4}

54. $3.1 \times 10^{7} \bullet 4.6 \times 10^{3}$

$3.1\cdot4.6\times10^{7}\times10^{3}$

14.26×10^{10}

#54: 1.426×10^{11}

For 55–62, determine if the following numbers are Rational (R) or Irrational (I).

55. $\sqrt{5}$ #55 I

56. π #56 I

57. $\sqrt{16}$ #57 R

58. 58.71 #58 R

59. 11 #59 R

60. -3 #60 R

61. 7.13945... #61 I

62. 5.464646... #62 R

For 63–67, use the following information. Mr. Roy's first hour earned the following scores (as a percent) on this test:

94, 88, 85, 96, 81, 74, 88, 91, 101, 98, 93, 82, 34, 77, 83

63. Identify the mean score on the test. (Nearest tenth) #63 84.3

$\frac{1,265}{15} = 84.3$

64. Identify the median score on the test. #64 88

34, 74, 77, 81, 82, 83, 85, 88, 88, 91, 93, 94, 96, 98, 101

65. Identify the mode(s). #65 88

66. Identify the range . #66 67

$101 - 34 = 67$

67. Distinguish which of the above is the best way to represent this data (the best measure of central tendency)? WHY?

#67 Median

#67 Reason There is an outlier