4.1 Exercises

FOR EXTRA HELP

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Identify the digit that has the given place value. See Example 2.

1. 70.489
tens
ones
tenths

2. 135.296
ones
tenths
tens

3. 0.2518
hundredths
thousandths
ten-thousandths

4. 0.9347
hundredths
thousandths
ten-thousandths

5. 93.01472
thousandths
ten-thousandths
tenths

6. 0.51968
tenths
ten-thousandths
hundredths

7. 314.658
tens
tenths
hundreds

8. 51.325
tens
tenths
hundredths

9. 149.0832
hundreds
hundredths
ones

10. 3458.712
hundreds
hundredths
tenths

11. 6285.7125
thousands
thousandths
hundredths

12. 5417.6832
thousands
thousandths
ones

Write the decimal number that has the specified place values. See Example 2.

13. 0 ones, 5 hundredths, 1 ten, 4 hundreds, 2 tenths

14. 7 tens, 9 tenths, 3 ones, 6 hundredths, 8 hundreds

15. 3 thousandths, 4 hundredths, 6 ones, 2 ten-thousandths, 5 tenths

16. 8 ten-thousandths, 4 hundredths, 0 ones, 2 tenths, 6 thousandths

17. 4 hundredths, 4 hundreds, 0 tens, 0 tenths, 5 thousandths, 5 thousands, 6 ones

18. 7 tens, 7 tenths, 6 thousands, 6 thousandths, 3 hundreds, 3 hundredths, 2 ones

Write each decimal as a fraction or mixed number in lowest terms. See Examples 1, 5, and 6.

19. 0.7 **20.** 0.1 **21.** 13.4 **22.** 9.8 **23.** 0.25

24. 0.55 **25.** 0.66 **26.** 0.33 **27.** 10.17 **28.** 31.99

29. 0.06 **30.** 0.08 **31.** 0.205 **32.** 0.805

33. 5.002 **34.** 4.008 **35.** 0.686 **36.** 0.492

Tell how to read each decimal in words. See Examples 3 and 4.

37. 0.5 **38.** 0.2

39. 0.78 **40.** 0.55

41. 0.105 **42.** 0.609

43. 12.04 **44.** 86.09

45. 1.075 **46.** 4.025

Write each decimal in numbers. See Examples 3 and 4.

47. six and seven tenths

48. eight and twelve hundredths

49. thirty-two hundredths

50. one hundred eleven thousandths

51. four hundred twenty and eight thousandths

52. two hundred and twenty-four thousandths

53. seven hundred three ten-thousandths

54. eight hundred and six hundredths

55. seventy-five and thirty thousandths

56. sixty and fifty hundredths

57. Anne read the number 4302 as "four thousand three hundred and two." Explain what is wrong with the way Anne read the number.

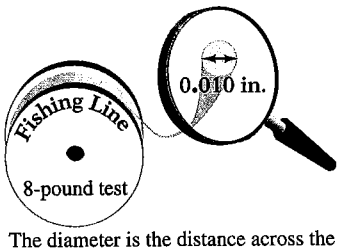
58. Jerry read the number 9.0106 as "nine and one hundred and six ten-thousandths." Explain the error he made.

The friends on the first page of this chapter need to select the correct fishing line for their reels. Fishing line is sold according to how many pounds of "pull" the line can withstand before breaking. Use the table to answer Exercises 59–62. Write all fractions in lowest terms. (Note: The diameter of the fishing line is its thickness.)

RELATING FISHING LINE DIAMETER TO TEST STRENGTH

Test Strength (pounds)	Average Diameter (inches)
4	0.008
8	0.010
12	0.013
14	0.014
17	0.015
20	0.016

Source: Berkley Outdoor Technologies Group.



The diameter is the distance across the end of the line (or its thickness).

59. Write the diameter of 8-pound test line in words and as a fraction.

60. Write the diameter of 17-pound test line in words and as a fraction.

61. What is the test strength of the line with a diameter of $\frac{13}{1000}$ inch?

62. What is the test strength of the line with a diameter of sixteen thousandths inch?

Suppose your job is to take phone orders for precision parts. Use the table, and in Exercises 63–68, write the correct part number that matches what you hear the customer say over the phone. In Exercises 67–68, write the words you would say to the customer.

Part Number	Size in Centimeters
3-A	0.06
3-B	0.26
3-C	0.6
3-D	0.86
4-A	1.006
4-B	1.026
4-C	1.06
4-D	1.6
4-E	1.602

63. "Please send the six-tenths centimeter bolt."

Part number _____.

64. "The part missing from our order was the one and six hundredths size."

Part number _____.

65. "The size we need is one and six thousandths centimeters."

Part number _____.

66. "Do you still stock the twenty-six hundredths centimeter bolt?"

Part number _____.

67. "What size is part number 4-E?" Write your answer in words.

68. "What size is part number 4-B?" Write your answer in words.

RELATING CONCEPTS (EXERCISES 69–76) For Individual or Group Work

Use your knowledge of place value to ***work Exercises 69–76 in order.***

69. Look back at the decimal place value chart on page 251. What do you think would be the names of the next four places to the *right* of hundred-thousandths? What information did you use to come up with these names?

70. A common mistake is to think that the first place to the right of the decimal point is "oneths" and the second place is "tenths." Why might someone make that mistake? How would you explain why there is no "oneths" place?

71. Use your answer to Exercise 69 to write 0.72436955 in words.

72. Use your answer to Exercise 69 to write 0.000678554 in words.

73. Write 8006.500001 in words.

74. Write 20,060.000505 in words.

75. Write this decimal in numbers.

three hundred two thousand forty ten-millionths

76. Write this decimal in numbers.

nine billion, eight hundred seventy-six million, five hundred forty-three thousand, two hundred ten and one hundred million two hundred thousand three hundred billionths