‹5› Intervals of Real Numbers

Write each interval of real numbers in interval notation and graph it. See Example 4.

41. The set of real numbers between 0 and 1

42. The set of real numbers between 2 and 6

43. The set of real numbers between -2 and 2 inclusive

44. The set of real numbers between -3 and 4 inclusive

45. The set of real numbers greater than 0 and less than or equal to 5

46. The set of real numbers greater than or equal to -1 and less than 6

Write each interval of real numbers in interval notation and graph it. See Example 5.

47. The set of real numbers greater than 4

48. The set of real numbers greater than 2

49. The set of real numbers less than or equal to -1

50. The set of real numbers less than or equal to -4

51. The set of real numbers greater than or equal to 0

52. The set of real numbers greater than or equal to 6

‹6› Absolute Value

Determine the values of the following. See Examples 6 and 7.

53. $|-6|$
54. $|4|$
55. $|0|$
56. $|2|$
57. $|7|$
58. $|-7|$
59. $|-9|$
60. $|-2|$
61. $|-45|$
62. $|-30|$
63. $\left|\frac{3}{4}\right|$
64. $\left|-\frac{1}{2}\right|$
65. $|-5.09|$
66. $|0.00987|$

Select the smaller number in each given pair of numbers.

67. $-16, 9$
68. $-12, -7$
69. $-\frac{5}{2}, -\frac{9}{4}$
70. $\frac{5}{8}, \frac{6}{7}$
71. $|-3|, 2$
72. $|-6|, 0$
73. $|-4|, 3$
74. $|5|, -4$

Which number in each given pair has the larger absolute value?

75. $-5, -9$
76. $-12, -8$
77. $16, -9$
78. $-12, 7$

Determine which number in each pair is closer to 0 on the number line.

79. $-4, -5$
80. $-8.1, 7.9$
81. $-2.01, -1.99$
82. $2.01, 1.99$
83. $-75, 74$
84. $-75, -74$

What is the distance on the number line between 0 and each of the following numbers?

85. 5.25
86. 4.2
87. -40
88. -33
89. $-\frac{1}{2}$
90. $-\frac{1}{3}$

Consider the following nine integers:

$$-4, -3, -2, -1, 0, 1, 2, 3, 4$$

91. Which of these integers has an absolute value equal to 3?

92. Which of these integers has an absolute value equal to 0?

93. Which of these integers has an absolute value greater than 2?

94. Which of these integers has an absolute value greater than 1?

95. Which of these integers has an absolute value less than 2?

96. Which of these integers has an absolute value less than 4?