

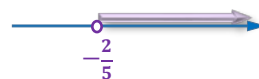
Review - ANSWERS

R.1 Exercises

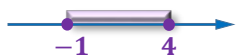
1. elements, \emptyset
3. subset
5. rational
7. true
9. true
11. false
13. $\{1,2,3,4,5,6,7,8\}$
15. $\{2,4,6, \dots\}$
17. $\{4,5,6,7,8\}$
19. Answers may vary. Examples of correct answers: $\{n \in W \mid n < 6\}$, $\{n \in Z \mid n \leq 5\}$
21. $\{x \in \mathbb{R} \mid x > -3\}$, or $\{x \mid x > -3\}$
23. Answers may vary. An example of a correct answer: $\{n \in \mathbb{Z} \mid n = 3k, k \in \mathbb{Z}\}$
25. \in
27. \notin
29. \notin
31. \in
33. $=$
35. a. $\sqrt{16}$; b. $0, \sqrt{16}$; c. $0, \sqrt{16}$ d. $0.999 \dots, -5.001, 0, 5\frac{3}{4}, 1.40\overline{5}, \frac{7}{8}, \sqrt{16}$,
e. $\sqrt{2}, 9.010010001 \dots$ f. $0.999 \dots, -5.001, 0, 5\frac{3}{4}, 1.40\overline{5}, \frac{7}{8}, \sqrt{2}, \sqrt{16}, 9.010010001 \dots$
37. $1.\overline{02} = \frac{101}{99} \in \mathbb{Q}$
39. $2.0\overline{125} = \frac{4021}{1998} \in \mathbb{Q}$
41. $5.22\overline{54} = \frac{1437}{275} \in \mathbb{Q}$

R.2 Exercises

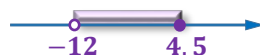
1. number
3. interval
5. distance
7. $0 > -1$
9. $x \leq 8$
11. $2 - 5x < 0$
13. $-5 < 3x < 7$
15. $-5 < x + 1 \leq 11$
17. $(-\infty, -3]$
19. $(-\frac{2}{5}, \infty)$



21. $[-1, 4]$



23. $(-12, 4.5]$



25. -8

27. 4

29. -6

31. $>$

33. \geq

35. $=$

37. 33

39. $|x|$

41. $|x - y|$

43. $\{-2, 8\}$

45. greatest sales in 2012; highest profits in 2010

47. Profits are lower than sales.

49. decrease of 165 thousands of dollars;
increase of 185 thousands of dollars51. average profit ~ 32 thousands/year; average sales ~ 361 thousands/year

R.3 Exercises

1. like; coefficients

3. least common

5. common factor

7. false

9. false

11. true

13. true

15. does not exist

17. $7 \cdot (5 \cdot 2)$

19. $-a$

21. 1

23. 0

25. $\frac{7}{20}$

27. $-\frac{1}{2}$

29. $-6x$

31. -8

33. -10

35. 18

37. $-\frac{41}{24}$ or $-1\frac{17}{24}$

39. $-\frac{101}{24}$ or $-4\frac{5}{24}$

41. -25

43. $-x + y$

45. $16x + 8y - 10$

47. $-x$

49. $-13x^2 + 12x$

51. $2\sqrt{x} - 4$

53. -2

55. $-25x^2$

57. $a + 7$

61. $33a - 10$

65. $-12x + 615$

69. 24

73. no

77. $29 \cdot 100 = 2900$

81. $9 \cdot 5 + 2 - (8 \cdot 3 + 1) = 22$

59. $-3x + 5$

63. $66x + 14$

67. -8

71. $\frac{8}{9}$

75. no

79. $\frac{8}{5} \cdot 30 = 48$