**fractions quiz**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

\_\_\_\_ 1. Which numbers are rational numbers?

, 3.6, , 

|  |  |  |  |
| --- | --- | --- | --- |
| a. | and 3.6 | c. | All of them |
| b. | and | d. | , 3.6, and |

\_\_\_\_ 2. Which numbers are rational numbers?

, , 11, 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. | All of them |
| b. | , , and | d. | and 11 |

\_\_\_\_ 3. Identify the number that is NOT equal to the other three numbers.

, , , 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 4. Identify equal rational numbers in this list:

, , , , 

|  |  |  |  |
| --- | --- | --- | --- |
| a. | and | c. | , , and |
| b. | , , and | d. | and |

\_\_\_\_ 5. Which rational number is represented by the letter A on the number line?



|  |  |  |  |
| --- | --- | --- | --- |
| a. | –0.5 | c. | –5 |
| b. | –0.8 | d. |  |

\_\_\_\_ 6. Identify the greatest rational number.

, , , 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 7. Order the numbers from least to greatest.

0.4, , 0.44

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 0.44, , 0.4 | c. | , 0.44, 0.4 |
| b. | 0.4, , 0.44 | d. | 0.4, 44, |

\_\_\_\_ 8. Which of these numbers are between 2.4 and 3.9?

4.05, 2.95, 3.95, 3.35

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 4.05 and 3.95 | c. | 3.95 and 3.35 |
| b. | 2.95 and 3.95 | d. | 2.95 and 3.35 |

\_\_\_\_ 9. Which of these numbers are between  and ?

, , , 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | and | b. | , , and | c. | and | d. | and |

\_\_\_\_ 10. Write the addition statement that this number line represents.



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 11. Write the addition statement that this number line represents.



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 12. Determine this sum.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 8.6 | b. | 8.6 | c. | –3.6 | d. | 3.6 |

\_\_\_\_ 13. Estimate to determine which sum is greater than 0.

i) 

ii) 

iii) 

iv) 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | i | b. | ii | c. | iv | d. | iii |

\_\_\_\_ 14. Which expression has the same sum as ?

i) 

ii) 

iii) 

iv) 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | i | b. | iv | c. | iii | d. | ii |

\_\_\_\_ 15. Determine this sum.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 16. A student first borrowed $40.25, then borrowed another $15.75 from his father.

He then paid back $20.75. How much does he still owe his father?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | $3.75 | b. | $45.25 | c. | $24.50 | d. | $35.25 |

\_\_\_\_ 17. Which numbers below would make this sentence true?



i) 3.9

ii) 4.9

iii) 3.5

iv) 4.4

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | ii and iv | b. | i and iv | c. | i and iii | d. | ii and iii |

\_\_\_\_ 18. Which expression has the least sum?

i) 

ii) 

iii) 

iv) 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | ii | b. | i | c. | iii | d. | iv |

\_\_\_\_ 19. Yesterday, the temperature of a freezer was . When the technician checked the freezer today, its temperature had decreased by . Determine the temperature of the freezer today.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 20. Determine this difference.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 9.6 | b. | –21.8 | c. | 8.6 | d. | –2.2 |

\_\_\_\_ 21. Determine this difference.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 22. Which expression has the same answer as ?

i) 

ii) 

iii) 

iv) 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | ii | b. | i | c. | iv | d. | iii |

\_\_\_\_ 23. Which expressions have the same answer as ?

i) 

ii) 7.8 + 12.3

iii) 

iv) 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | i and iii | b. | ii and iv | c. | ii and iii | d. | iii and iv |

\_\_\_\_ 24. Which expressions have the same answer as (5) ?

i) 5  

ii) 5 + 

iii)  + 5

iv) 5  

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | iii and iv | b. | ii and iv | c. | i and ii | d. | i and iii |

\_\_\_\_ 25. Determine this difference.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | –32.11 | b. | 4.78 | c. | 11.30 | d. | 12.30 |

\_\_\_\_ 26. Determine this difference.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 27. Determine this difference.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 28. Determine this difference.

 – 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 29. The temperature at the top of a mountain is 10.5C less than the temperature at the base of the mountain. If the temperature at the base is 4.4C, what is the temperature at the top?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 6.1C | b. | 14.9C | c. | –6.1C | d. | 14.9C |

**Short Answer**

30. Write the rational number represented by the letter P on the number line, as a decimal.



31. Write the rational number represented by each letter on the number line, as a decimal.



32. Write the rational number represented by each letter on the number line, as a fraction.



33. Write 3 rational numbers between 2.3 and 2.4.

34. Which rational number is greater?

3.3, 

35. Which rational number is less?

, 

36. a) Which of the numbers in the box below are less than 1?

b) Which numbers are greater than 2?



37. Insert <, >, or = to make each expression true.

a) 

b)   

38. Insert <, >, or = to make each expression true.

a) 3.08  

b)   3.11

39. Insert <, >, or = to make each expression true.

a) 2065 mm  20.65 cm

b) 3334 m  33.34 km

c) 1447 cm  14.47 m

40. Order these numbers from least to greatest.

, , , 

41. Order these numbers from greatest to least.

, 1.2, , , 1.4

42. Write the addition statement that this number line represents.



43. Write the addition statement that this number line represents.



44. Determine this sum.



45. Determine this sum.



46. Determine this sum.



47. Determine this sum.



48. Determine this sum.

 + 

49. Estimate whether this sum is greater than or less than 0.



50. Estimate whether this sum is greater than or less than 0.



51. Determine a number that makes this sentence true.



52. Determine this difference.

  

53. Determine this difference.



54. Determine this difference.



55. Determine this difference.

  

56. Determine this difference.

  

57. Which expressions have negative answers? Determine these negative answers.

i) 

ii) 

iii) 

58. Evaluate this expression.

–6.7 – 16.59 + 12.26

59. Evaluate this expression.

 –  + 

60. Determine a rational number that makes this statement true.



**Problem**

61. Use the numbers in the box below.

a) List the numbers that are greater than 1.6.

b) List the numbers that are less than 2.3.



62. a) Show these rational numbers on the number line:

, 0.5, , , 0.5, 2.1, 1.4, 



b) Which number is least?

c) Which number is greatest?

63. Calipatria, California, USA is 0.086 km below sea level; Winnipeg, Manitoba is 0.238 km above sea level; and Kimberly, British Columbia is 1.113 km above sea level.

a) Represent the elevation of each city above or below sea level as a rational number.

b) Sketch and label a vertical number line to show the sea level and the elevation of each city.

c) Which city’s elevation is closest to sea level? Explain your reasoning.

d) Which city has the greatest elevation? How do you know?

64. a) Show these rational numbers on a number line:

, 1.66, 1.69, , 0.71, 1.24, 



b) Which numbers are between 1.6 and 1.6?

65. Melissa earns $45.25 working in a coffee shop, and $18.25 for babysitting.

She spends $31.64 on art supplies and $15.48 on a computer game.

a) Write an addition statement to represent Melissa’s income and expenditure.

b) How much money does Melissa have left?

66. This table shows the money earned and spent by Kelsie in the first month of operating her home based computer business.

|  |  |  |
| --- | --- | --- |
| **Item** | **Income** | **Expenditure** |
| New computer |  | $760 |
| Additional software |  | $65 |
| Contract No. 1 | $490 |  |
| Contract No. 2 | $390 |  |
| Miscellaneous expenses |  | $260 |

a) Write an addition statement to show Kelsie’s income and expenditure.

b) Did Kelsie make a profit in her business?

67. a) Without adding, how can you tell which expression has the least sum? Explain your reasoning.

i) 

ii) 

iii) 

b) Determine the least sum.

68. A model train leaves a station and makes these moves:

5.6 m forward, 4.3 m backward, 6.1 m forward, 2.2 m forward, 7.2 m backward, and 3.7 m forward.

How far is the train from its starting point?

69. What can you say about the two non-zero rational numbers in each case?

Include an example of each.

a) The sum of the numbers is positive.

b) The sum of the numbers is negative.

c) The sum of the numbers is zero.

70. Evaluate this expression. Show your work.

  ()  

71. Insert <, >, or = to make this statement true. Explain your thinking.



72. At the end of each day, Marco checks the petty cash box to determine the amount of money left.

On Monday morning, there was $20 in the cash box.

On Monday evening, there was $14 in the cash box.

On Tuesday evening, there was $25 in the cash box.

On Wednesday evening, there was $16 in the cash box.

On Thursday evening, there was $11 in the cash box.

On Friday evening, there was $7 in the cash box.

a) Use rational numbers to describe the increase or decrease in the amount of cash at the end of each day.

b) Compared to Monday morning, was there more or less cash in the box on Friday evening? How much more or less?

73. Use the numbers in the box below.

a) Find the difference between the greatest number and the least number.

b) Why are there two possible answers for part a?



74. Determine a rational number that makes the answer positive.



75. Replace  with a rational number to make the answer negative.



**fractions quiz**

**Answer Section**

**MULTIPLE CHOICE**

1. ANS: C PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

2. ANS: C PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

3. ANS: B PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

4. ANS: B PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

5. ANS: D PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

6. ANS: A PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

7. ANS: C PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

8. ANS: D PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

9. ANS: B PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

10. ANS: A PTS: 1 DIF: Easy REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

11. ANS: C PTS: 1 DIF: Easy REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

12. ANS: B PTS: 1 DIF: Easy REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

13. ANS: D PTS: 1 DIF: Easy REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

14. ANS: D PTS: 1 DIF: Easy REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

15. ANS: A PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

16. ANS: D PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

17. ANS: C PTS: 1 DIF: Difficult REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

18. ANS: D PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

19. ANS: D PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills

20. ANS: D PTS: 1 DIF: Easy REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

21. ANS: A PTS: 1 DIF: Easy REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

22. ANS: D PTS: 1 DIF: Easy REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

23. ANS: A PTS: 1 DIF: Easy REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

24. ANS: A PTS: 1 DIF: Easy REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

25. ANS: B PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

26. ANS: A PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

27. ANS: B PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

28. ANS: A PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

29. ANS: B PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge | Problem-Solving Skills

**SHORT ANSWER**

30. ANS:

4.1

PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

31. ANS:

Q: 0.16, R: 0.19

PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

32. ANS:

B: , C: 

PTS: 1 DIF: Easy REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

33. ANS:

Answers will vary. For example: 2.34, 2.36, and 2.365

PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

34. ANS:



PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

35. ANS:



PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

36. ANS:

a) –3.4, , –1.55, 

b) –1.55, , , 0.72

PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

37. ANS:

a) 

b)  > 

PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

38. ANS:

a) 3.08 = 

b)  > 3.11

PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

39. ANS:

a) 2065 mm > 20.65 cm

b) 3334 m < 33.34 km

c) 1447 cm = 14.47 m

PTS: 1 DIF: Difficult REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

40. ANS:

, , , 

PTS: 1 DIF: Difficult REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

41. ANS:

, 1.2, , , 1.4

PTS: 1 DIF: Difficult REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge

42. ANS:



PTS: 1 DIF: Easy REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

43. ANS:

 +  = 

PTS: 1 DIF: Easy REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

44. ANS:

1.5

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

45. ANS:

7.95

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

46. ANS:



PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

47. ANS:



PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

48. ANS:



PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

49. ANS:

The sum is greater than 0.

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

50. ANS:

The sum is greater than 0.

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

51. ANS:

Any number less than or equal to 5.3.

For example: 4.0

PTS: 1 DIF: Difficult REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Conceptual Understanding

52. ANS:



PTS: 1 DIF: Easy REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

53. ANS:

–14.6

PTS: 1 DIF: Easy REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

54. ANS:

142.29

PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

55. ANS:



PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

56. ANS:



PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

57. ANS:

Expressions i and iii have negative answers.

i) 

iii) 

PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

58. ANS:

–11.03

PTS: 1 DIF: Difficult REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

59. ANS:



PTS: 1 DIF: Difficult REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

60. ANS:

Any rational number less than or equal to 4.1.

PTS: 1 DIF: Difficult REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge | Problem-Solving Skills

**PROBLEM**

61. ANS:

a) 0.9, 1.3, , , 2.45, , 

b) 1.8, 0.9, 1.3, , 

PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills

62. ANS:

a) , 0.5, , , 0.5, 2.1, 1.4, 

Write the fractions and mixed numbers as decimals.

 = 

 = 1.75

 = 

 = 

Mark each number on a number line.



b) The least number is: 2.1

c) The greatest number is: 

PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills

63. ANS:

a) Calipatria: –0.086; Winnipeg: 0.238; Kimberly: 1.113

b) Mark each number from part a on the number line.



c) Calipatria’s elevation is closest to sea level. It is closest to 0 on the number line.

d) Kimberly has the greatest elevation. Its elevation is highest on the number line.

PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills | Communication

64. ANS:

a) Write the fractions and mixed numbers as decimals.

 = 

 = 

 = 2.25

Mark each number on a number line.



b) The numbers , , 1.24, and 0.71 are between 1.6 and 1.6.

PTS: 1 DIF: Difficult REF: 3.1 What Is a Rational Number?

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills

65. ANS:

a) 

b) Melissa has $16.38 left.

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills

66. ANS:

a) 

b) No, Kelsie had a loss of $205.

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills

67. ANS:

a) Expression ii has the least sum since all numbers in the expression are negative.

b) The sum is 18.7.

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge | Communication

68. ANS:



The train is 6.1 m from its starting point.

PTS: 1 DIF: Moderate REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills | Communication

69. ANS:

a) The number with the greater numerical value is positive.

For example, –2.1 + 7.5 = 5.4

b) The number with the greater numerical value is negative.

For example, –6.2 + 5.1 = –1.1

c) The numbers have equal numerical values, but opposite signs.

For example, –2.5 + 2.5 = 0

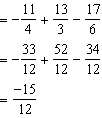
PTS: 1 DIF: Difficult REF: 3.2 Adding Rational Numbers

LOC: 9.N3 TOP: Number

KEY: Conceptual Understanding | Communication | Problem-Solving Skills

70. ANS:

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PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills | Communication

71. ANS:

Simplify each side of the statement.





Since –0.3 > –0.7,



PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills | Communication

72. ANS:

a) Monday evening 6

Tuesday evening 11

Wednesday evening 9

Thursday evening 5

Friday evening 4

b) 207 = 13

Compared to Monday morning, there was $13 less in the box on Friday evening.

PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills | Communication

73. ANS:

a) The greatest number is: –3.1

The least number is: –8.6

 or 

b) We could subtract the least number from the greatest number or we could subtract the greatest number from the least number.

PTS: 1 DIF: Moderate REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Problem-Solving Skills

74. ANS:

Visualize a number line.

 represents the distance from  to .

The answer is positive when the arrow points to the right.

So, replace  with a number to the left of .



–5 is to the left of  on the number line.

So, –5 makes the answer positive: 

PTS: 1 DIF: Difficult REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge | Problem-Solving Skills

75. ANS:

Visualize a number line.

 represents the distance from  to .

The answer is negative when the arrow points to the left.

So, replace  with a number to the left of .



–7 is to the left of  on the number line.

So, –7 makes the answer negative: 

PTS: 1 DIF: Difficult REF: 3.3 Subtracting Rational Numbers

LOC: 9.N3 TOP: Number KEY: Procedural Knowledge | Problem-Solving Skills