**Math 7/7+ - Unit 1 Integers STUDY GUIDE**

**Short Answer**

1. Isabelle recorded the number of videos rented and returned at Movie Lovers, Inc., each hour while working on a Friday night. The table below shows the overall change in the number of videos at the store. What was the average change per hour?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Hour** | 1 | 2 | 3 | 4 |
| **Change in Number of Videos** | –16 | –18 | 15 | –13 |

2. Isabelle recorded the number of videos rented and returned at Movie Lovers, Inc., each hour while working on a Friday night. The table below shows the overall change in the number of videos at the store. What was the average change per hour?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Hour** | 1 | 2 | 3 | 4 |
| **Change in Number of Videos** | 12 | –13 | 19 | –6 |

**Find the sum.**

3. 32 + 30

4. –10 + 1 + (–6)

5. –113 + 65 + (–18) + (–135)

6. –18 + 118 + (–58) + 200

7. Evaluate  for the given values.

 43,  –9

8. Evaluate  for the given values.

 –28,  –32

9. Evaluate  for the given values.

 –24,  –22

10. Subtract.

–25  (–40)

11. Subtract.

2  14

12. Subtract.

–47  (–19)

13. Evaluate  for the given values.

 –42,  –12

14. Evaluate  for the given values.

 –13,  3

15. Evaluate  for the given values.

 –25,  –13

**Simplify the product.**

16. 

17. 

18. 

19. Find the quotient.

–105  (–5)

20. Find the quotient.

144  (–9)

21. Find the quotient.

–136  (–8)

**Compare. Use >, <, or = to complete the statement.**

22. –9 –5

23. –8  –5 

24. 10 –4 

25. –3  4 

26. 12 12 

27. 6 7

28. A submarine at the surface dives 550 ft and then another 150 ft. Express the final depth as an integer.

29. The highest temperature recorded in the town of Westgate this summer was 96°F. Last winter, the lowest temperature recorded was –12°F. Find the difference between these extremes.

30. The highest temperature recorded in the town of Westgate this summer was 90°F. Last winter, the lowest temperature recorded was –11°F. Find the difference between these extremes.

31. The highest temperature recorded in the town of Westgate this summer was 96°F. Last winter, the lowest temperature recorded was –2°F. Find the difference between these extremes.

**Evaluate.**

32. 71  4*y*, for *y* = 6

33. 9*m*  4, for *m* = 3

34. (2x - 1)(x + 3), for x = -1

35. 2x - 5, for x = -1

36.  for  and 

37. (x + 4)(x - 3), for x = -2

38. To print tickets, a printer charges a $65 setup fee plus $1.00 per ticket. Write an algebraic expression for the cost of *t* tickets. What is the cost of 350 tickets?

39. Your job pays $6 per hour. Write a variable expression for your pay in dollars for working *h* hours. What is your pay if you work 35 hours?

**Use the Distributive Property to multiply.**

40. –2(–*y* + 6)

41. 6(–2*t* + 6)

42. –3(–2*t* + 2)

43. 4(*q* – 5)

44. –7(–2*t* + 5)

45. Name the coefficients in the expression 4*x* + 9 – *y.*

46. Name the like terms in the expression

5*a* + 8 – 3*a* + 11y.

47. Name the constant(s) in the expression 7*x* + 9*y* + 3.

**Simplify the expression.**

48. 3 – 5(5*x* + 8)

49. 4(a + 3) - a

50. 4(w + 2x) + 9(-4w)

51. 3(2n + 4) + 2(3n + 6)

52. w + 3w + 4(5 + w - 3w)

53. -18x - 6(3x - 7) + 4x

54. Graph –2 and its opposite on a number line.

55. Write the integers 4, –5, 7, –7, 8, and 1 in order from least to greatest, and then plot each of them on a number line.

56. Write the integers –1, –6, 6, –5, 9, and 2 in order from least to greatest, and then plot each of them on a number line.

57. Write this phrase as an algebraic expression.

13 more than a number

58. Write this phrase as an algebraic expression.

5 multiplied by a number

59. Write this phrase as an algebraic expression.

4 less than a number times 28

60. Write this phrase as an algebraic expression.

21 less than a number

61. Write this phrase as an algebraic expression.

6 multiplied by a number

62. Write this phrase as an algebraic expression.

16 divided into a number

63. Write a variable expression for

the product between a number *u* and 8.

64. Write a variable expression for the quotient of a number *s* and 3.

65. Write a variable expression for

a number *v* decreased by 4.

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**Answer Section**

**SHORT ANSWER**

1. –8

2. 3

3. 62

4. –15

5. –201

6. 242

7. 34

8. –60

9. –46

10. 15

11. –12

12. –28

13. –30

14. –16

15. –12

16. –704

17. –648

18. –540

19. 21

20. –16

21. 17

22. >

23. >

24. >

25. <

26. =

27. <

28. –700 ft

29. 108°F

30. 101°F

31. 98°F

32. 95

33. 23

34. -6

35. -3

36. 384

37. -10

38. ; $415.00

39. 6*h*; $210

40. 2*y* – 12

41. –12*t* + 36

42. 6*t* – 6

43. 4*q* – 20

44. 14*t* – 35

45. 4, –1

46. 5*a*, –3*a*

47. 3

48. –25*x* – 37

49. 3a + 12

50. -32w + 8x

51. 12n + 24

52. -4w + 20

53. -32x + 42

54. 

55. –7, –5, 1, 4, 7, 8



56. –6, –5, –1, 2, 6, 9



57. 

58. 

59. 

60. 

61. 

62. 

63. *u*  8

64. *s*  3

65. *v*  4