Ch 11 Integers Practice Test

True/False
Indicate whether the sentence or statement is true or false.

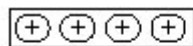> *If false, write the corrected statement in the space provided.*

____ 1. On a horizontal number line, the numbers increase to the left and decrease to the right.

_____

____ 2. Opposite integers are any two integers with opposite signs.

_____

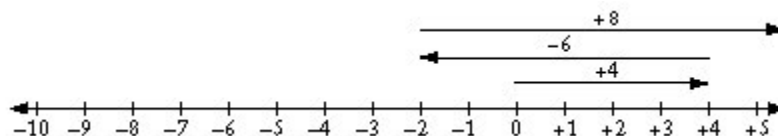____ 3. The addition statement modelled by the group of integer chips is (–5) + (+4).

_____

____ 4. The integer sum represented by the group of chips is –6.

_____

____ 5. The result of (+8) + (–4) is the same as the result of (–8) + (+4).

_____

____ 6. The integer sum shown by the arrows above the number line is +6.

_____

____ 7. The sum of a positive integer and a negative integer is always greater than zero.

_____

____ 8. The sum of (+3) and (–8) is greater than the sum of (–5) and (+1).

_____

____ 9. When a positive integer is subtracted from a negative integer, the result is always a negative integer.

_____

_____ 10. When a negative integer is subtracted from a negative integer, the result can be zero.

_____ 11. The difference of (–4) – (+5) is the opposite of the difference of (+4) – (–5).

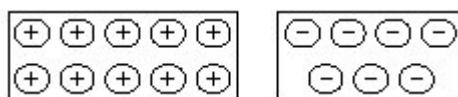_____ 12. The result of (–9) – (–7) + (–1) is –1.

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

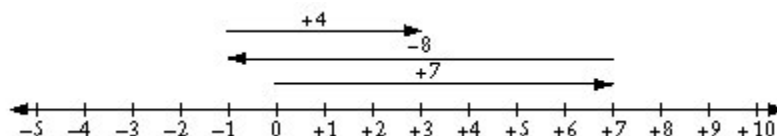_____ 13. Which is the coldest temperature in this set of temperatures: 0°C, −3°C, −1°C, or 10°C?
  a. 0°C
  b. −3°C
  c. −1°C
  d. 10°C

_____ 14. What is the addition statement for this group of integer chips?

  a. (+10) + (–7)
  b. (+10) + (+7)
  c. (–10) + (+7)
  d. (–10) + (–7)

_____ 15. What is the integer sum shown on the number line?

  a. –8
  b. +7
  c. +3
  d. +4

_____ 16. What is the result when a negative integer is added to a positive integer?
  a. an integer less than zero
  b. an integer greater than zero
  c. an integer equal to zero
  d. all of the above

_____ 17. What is the subtraction sentence modelled by the sequence of integer chips?

  a. (+4) – (–6)
  b. (–4) – (–6)
  c. (–4) – (+6)
  d. (+4) – (+6)

_____ 18. What is the result when a negative integer is subtracted from a negative integer?
  a. a negative integer
  b. a positive integer
  c. zero
  d. all of the above

_____ 19. What is the difference of (–7) – (–2) – (–6)?
  a. +1
  b. +3
  c. –11
  d. –15

_____ 20. What is the result of (–7) – (–2) + (–6)?

a. −1
b. −3

c. −11
d. −15

____ 21. The value of the expression (+5) + (−8) − (−12) + (−9) is
   a. a positive integer.
   b. a negative integer.

   c. zero.
   d. not determined.

____ 22. What is the result of (−8) + (−8) − (−8) − (+8)?
   a. 0
   b. −16

   c. −24
   d. −32

Matching

Choose the term that best matches each example listed below.
   a. integers
   b. positive integers
   c. negative integers

   d. opposite integers
   e. zero principle

____ 23. +1, +2
____ 24. −1, −2
____ 25. +1, −2

Short Answer

Write your answer in the space provided.

26. Draw a horizontal number line to show each set of integers. Represent each integer by a point. Write the integers in each set in increasing order.
   a) −5, −1, −2, +4, +1
   b) +3, −4, −1, +6, 0
   c) −2, 0, +1, −4, +2

27. Write the opposite integer for each integer.
   a) +12
   b) +1
   c) −100
   d) −66

28. Write integers to represent each situation.
   a) 15 min before the start of a movie, 45 min after the movie
   b) 5 m taller, 1 m shorter
   c) 13 cm underground, ground level
   d) earning $10, $3 deducted for taxes

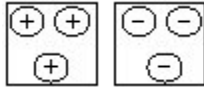29. Interpret each group of integer chips. Write the addition statement for each.
   a)
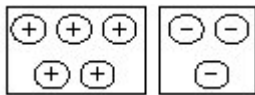
   b)
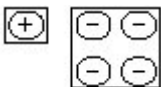
c)

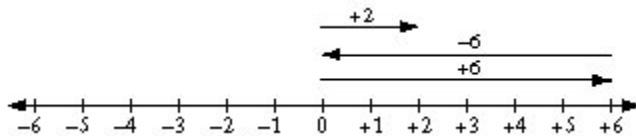30. Write an addition statement for each situation, and solve.
    a) Maria jogged for 45 min and used up 400 calories. Later, she ate two slices of pizza and gained 700 calories.
    b) Jeb got $25 on his birthday. He spent $17 on a new CD.
    c) Hilary filled her water bottle with 750 mL of water. She drank 425 mL during lunch.

31. Write an addition statement for each number line.
    a)
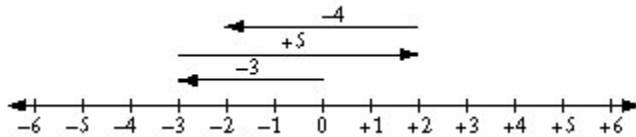
    b)

32. Draw an integer number line to show each addition statement.
    a) $(-2) + (+1) + (-3)$
    b) $(+7) + (-6) + (+5)$

33. Use mental arithmetic to find each sum.
    a) $(-5) + (-4)$
    b) $(+18) + (-8)$
    c) $0 + (-9)$

34. What is the missing integer in each pattern?
    a) $+1, +3, +5, \underline{\quad}, +9, ...$
    b) $-5, 0, +5, \underline{\quad}, +15, ...$
    c) $0, -3, -6, -9, \underline{\quad}, ...$

35. Solve.
    a) $(-2) - (-2)$
    b) $0 - (-1)$
    c) $(+3) - (-6)$
    d) $(-6) - (+3)$

36. Determine the unknown integer.
    a) $(-8) - x = -1$
    b) $(+10) - (+5) = x$
    c) $x - (-2) = +10$
    d) $(-4) - x = 0$

37. Evaluate each expression.
    a) $(-18) + 56 - (-30)$
    b) $(-10) - (-40) + 52$
    c) $(-100) + 35 + 23 - 20$

Problem

Write your answer in the space provided.

38. A high school basketball team has a record of three wins and two losses in its first five games. In the three winning games, the team outscored its opponents by 15 points, 10 points, and 9 points. In the two losing games, the team was outscored by 12 points and 8 points.
    a) Write an integer addition statement for the team's three wins. What is the total number of points by which the team outscored its opponents?
    b) Write an integer addition statement for the team's two losses. What is the total number of points by which the team was outscored?
    c) Write an integer addition statement for the points scored and the points lost. What is the sum?

Ch 11 Integers Practice Test
Answer Section

TRUE/FALSE

1. ANS: F
   On a horizontal number line, the numbers increase to the right and decrease to the left.

   DIF: Level 3 REF: Knowledge/Understanding OBJ: Section 11.1
   STO: NSN-7m1 TOP: Number Sense and Numeration KEY: Number Line

2. ANS: F
   Opposite integers are two integers with the same numeral but opposite signs.

   DIF: Level 3 REF: Knowledge/Understanding OBJ: Section 11.1
   STO: NSN-7m1 TOP: Number Sense and Numeration KEY: Opposite Integers

3. ANS: F
   The addition statement modelled by the group of integer chips is $(+5) + (-4)$.

   DIF: Level 2 REF: Application OBJ: Section 11.2 STO: NSN-7m21
   TOP: Number Sense and Numeration KEY: Integer Addition

4. ANS: T DIF: Level 2 REF: Application OBJ: Section 11.2
   STO: NSN-7m21 TOP: Number Sense and Numeration KEY: Integer Addition

5. ANS: F
   The result of $(+8) + (-4)$ is not the same as the result of $(-8) + (+4)$.

   Rationale:
   $(+8) + (-4) = +4$
   $(-8) + (+4) = -4$

   DIF: Level 3 REF: Thinking/Inquiry/Problem Solving OBJ: Section 11.2
   STO: NSN-7m1 TOP: Number Sense and Numeration KEY: Integer Addition

6. ANS: T DIF: Level 2 REF: Application OBJ: Section 11.3
   STO: NSN-7m21 TOP: Number Sense and Numeration KEY: Integer Addition

7. ANS: F
   The sum of a positive integer and a negative integer can be greater than or less than zero.

   DIF: Level 2 REF: Thinking/Inquiry/Problem Solving OBJ: Section 11.3
   STO: NSN-7m1 TOP: Number Sense and Numeration KEY: Integer Addition

8. ANS: F
   The sum of $(+3)$ and (-8) is less than the sum of (-5) and $(+1)$.

   Rationale:
   $(+3) + (-8) = -5$
   $(-5) + (+1) = -4$

   DIF: Level 3 REF: Application OBJ: Section 11.3 STO: NSN-7m1
   TOP: Number Sense and Numeration KEY: Comparing Integer Sums

9. ANS: T DIF: Level 3 REF: Knowledge/Understanding
   OBJ: Section 11.4 STO: NSN-7m1 TOP: Number Sense and Numeration

KEY: Integer Subtraction
10. ANS: T   DIF: Level 3   REF: Thinking/Inquiry/Problem Solving
    OBJ: Section 11.4   STO: NSN-7m1   TOP: Number Sense and Numeration
    KEY: Integer Subtraction
11. ANS: T   DIF: Level 3   REF: Thinking/Inquiry/Problem Solving
    OBJ: Section 11.4   STO: NSN-7m1   TOP: Number Sense and Numeration
    KEY: Integer Subtraction, Opposite Integers
12. ANS: F
The result of $(-9) - (-7) + (-1)$ is -3.

    DIF: Level 3   REF: Application   OBJ: Section 11.6   STO: NSN-7m22
    TOP: Number Sense and Numeration   KEY: Integer Addition/Subtraction

MULTIPLE CHOICE

13. ANS: B   DIF: Level 2   REF: Thinking/Inquiry/Problem Solving
    OBJ: Section 11.1   STO: NSN-7m1   TOP: Number Sense and Numeration
    KEY: Comparing Integers
14. ANS: A   DIF: Level 2   REF: Application   OBJ: Section 11.2
    STO: NSN-7m21   TOP: Number Sense and Numeration   KEY: Integer Addition
15. ANS: C   DIF: Level 2   REF: Application   OBJ: Section 11.3
    STO: NSN-7m21   TOP: Number Sense and Numeration   KEY: Integer Addition
16. ANS: D   DIF: Level 3   REF: Thinking/Inquiry/Problem Solving
    OBJ: Section 11.3   STO: NSN-7m22   TOP: Number Sense and Numeration
    KEY: Integer Addition
17. ANS: B   DIF: Level 3   REF: Application   OBJ: Section 11.4
    STO: NSN-7m21   TOP: Number Sense and Numeration   KEY: Integer Subtraction
18. ANS: D   DIF: Level 4   REF: Thinking/Inquiry/Problem Solving
    OBJ: Section 11.4   STO: NSN-7m1   TOP: Number Sense and Numeration
    KEY: Integer Subtraction
19. ANS: A   DIF: Level 3   REF: Application   OBJ: Section 11.5
    STO: NSN-7m22   TOP: Number Sense and Numeration   KEY: Integer Subtraction
20. ANS: C   DIF: Level 3   REF: Application   OBJ: Section 11.6
    STO: NSN-7m22   TOP: Number Sense and Numeration   KEY: Integer Addition/Subtraction
21. ANS: C   DIF: Level 3   REF: Application   OBJ: Section 11.6
    STO: NSN-7m22   TOP: Number Sense and Numeration   KEY: Integer Addition/Subtraction
22. ANS: B   DIF: Level 3   REF: Application   OBJ: Section 11.6
    STO: NSN-7m22   TOP: Number Sense and Numeration   KEY: Integer Addition/Subtraction

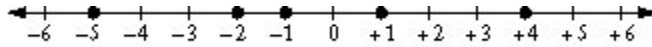## MATCHING

23. ANS: B   DIF: Level 2   REF: Knowledge/Understanding
    OBJ: Section 11.3   STO: NSN-7m1   TOP: Number Sense and Numeration
    KEY: Integer
24. ANS: C   DIF: Level 2   REF: Knowledge/Understanding
    OBJ: Section 11.3   STO: NSN-7m1   TOP: Number Sense and Numeration
    KEY: Integer
25. ANS: A   DIF: Level 2   REF: Knowledge/Understanding

OBJ: Section 11.3   STO: NSN-7m1   TOP: Number Sense and Numeration
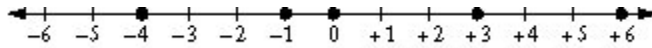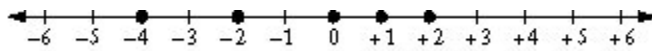KEY: Integer

SHORT ANSWER

26. ANS:
    a)

    From smallest to greatest, the integers are in this order: –5, –2, –1, +1, +4.

    b)

    From smallest to greatest, the integers are in this order: –4, –1, 0, +3, +6.

    c)

    From smallest to greatest, the integers are in this order: –4, –2, 0, +1, +2.

    DIF: Level 1   REF: Application   OBJ: Section 11.1   STO: NSN-7m1
    TOP: Number Sense and Numeration   KEY: Number Line

27. ANS:
    a) –12
    b) –1
    c) +100
    d) +66

    DIF: Level 2   REF: Knowledge/Understanding   OBJ: Section 11.1
    STO: NSN-7m1   TOP: Number Sense and Numeration   KEY: Opposite Integers

28. ANS:
    a) –15, +45
    b) +5, –1
    c) –13, 0
    d) +10, –3

    DIF: Level 2   REF: Thinking/Inquiry/Problem Solving   OBJ: Section 11.1
    STO: NSN-7m1   TOP: Number Sense and Numeration   KEY: Comparing Integers

29. ANS:
    a) $(+5) + (–3)$
    b) $(+1) + (–4)$
    c) $(+3) + (–3)$

    DIF: Level 2   REF: Application   OBJ: Section 11.2   STO: NSN-7m21
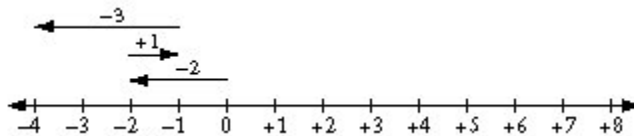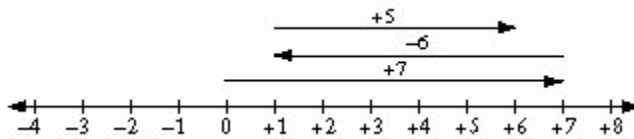   TOP: Number Sense and Numeration   KEY: Integer Addition

30. ANS:
    a) $(–400) + (+700) = +300$
       Maria gained +300 calories.
    b) $(+25) + (–17) = +8$
       Jeb had $8 left.
    c) $(+750) + (–425) = +325$
       There is 325 mL of water in Hilary's water bottle.

31.   ANS:
a) $(-3) + (+5) + (-4)$
b) $(+6) + (-6) + (+2)$

32.   ANS:
a)

b)

33.   ANS:
a)   –9
b)   +10
c)   –9

34.   ANS:
a)   +7
b)   +10
c)   –12

35.   ANS:
a)   0
b)   +1
c)   +9
d)   –9

36.   ANS:
a) $x = (-7)$
b) $x = (+5)$
c) $x = (+8)$
d) $x = (-4)$

DIF: Level 3   REF: Application   OBJ: Section 11.5   STO: NSN-7m22
TOP: Number Sense and Numeration   KEY: Integer Subtraction

37. ANS:
   a) +68
   b) +82
   c) −62

   DIF: Level 3   REF: Application   OBJ: Section 11.6   STO: NSN-7m22
   TOP: Number Sense and Numeration   KEY: Integer Addition/Subtraction

PROBLEM

38. ANS:
   a) (+15) + (+10) + (+9) = +34
   b) (−12) + (−8) = −20
   c) (+34) + (−20) = +14

   DIF: Level 2   REF: Thinking/Inquiry/Problem Solving   OBJ: Section 11.2
   STO: NSN-7m22   TOP: Number Sense and Numeration   KEY: Integer Addition