UNIT 1

The Number System

Unit Test: C

1. A sandwich costs $5.70 and a piece of fruit costs $2.15. If you have a $20 bill, how much change will you get?

   A $2.15

   B $7.85

   C $11.15

   D $12.15

2. Cole went hiking near his house. The first trail took him 7 miles away from his house. The second trail took him $3\frac{1}{2}$ miles closer to his house. The third trail took him $2\frac{2}{5}$ miles further away from his house. How many miles from his house was Cole after he finished hiking the third trail?

   A $1\frac{1}{10}$

   B $5\frac{9}{10}$

   C $8\frac{1}{10}$

   D $12\frac{9}{10}$

3. Dara went on vacation to New York City in 2012. She bought a $20 pass to ride the subway. Each time she rode the subway it cost her $2.25. If she rode the subway 7 times, how much money was left on her pass at the end of her trip?

   A $2.25   C $8.50

   B $4.25   D $15.75

4. Linda earns $90,000 per year. If she does not work for 2 months in a year, how much money would she earn?

   A $7,500   C $60,000

   B $15,000   D $75,000

5.

Income and Expenses for Callie's Cafe		
Month	**Income**	**Expenses**
January	$5,450	$2,220
February	$5,780	$2,750
March	$6,140	$3,030
April	$4,870	$2,140

   Income and expenses for Callie's Café are shown in the table. In which month was profit the greatest?

   A January   C March

   B February   D April

6. Ms. Henning wants to purchase 30 calculators for her math class. Calculators cost $14 each. Ms. Henning currently has $300 in her account to spend on the calculators. How much more money does she need?

   A $100   C $240

   B $120   D $420

7. Working together, 5 friends collected $40\frac{5}{8}$ bags of food for the homeless. On average, how many bags of food did each friend collect?

   A $8\frac{1}{8}$ C $10\frac{1}{8}$

   B 10   D 12

8. Diamond has $350 in her bank account. She wrote 4 checks for $18.45 each and 2 checks for $51.25 each. What will be the balance in Diamond's account after the checks are cashed?

   A $102.50   C $176.30

   B $173.70   D $378.70

UNIT 1

The Number System

9. Andre rode his bicycle to a park located $5\frac{1}{2}$ miles from his house. He returned along the same route. After riding $7\frac{1}{3}$ miles total, how many more miles does Andre need to ride to reach his home?

_____

10. Anne has a $10\frac{3}{4}$-pound bag of flour. Each time she bakes a batch of rolls she uses $2\frac{1}{6}$ pounds of flour. How many pounds of flour remain after Anne bakes 3 batches of rolls?

_____

11. Tommy wrote down all of the whole numbers greater than –1 and less than 3. What is the average value of these numbers?

_____

12. Evelyn wants to buy 5 pens that cost $2.45 each and 3 notebooks that cost $4.39 each. If she currently has $20, how much more money does she need?

_____

13. At the supermarket Cammy can buy $\frac{2}{5}$ pound of oranges for $4. At the farmer's market she can buy $\frac{4}{7}$ pound of oranges for the same price. Where does she get the better deal? Explain your answer.

_____

14. Boris buys the newspaper every morning. Weekday newspapers cost $1.50 each. Saturday papers cost $0.75 and Sunday papers cost $3.25. How much does Boris spend on newspapers each week?

_____

15. How much greater is the value of $\left(-2\frac{3}{5}\right)\left(-4\frac{1}{8}\right)$ than the value of $3\frac{3}{4} \div 1\frac{1}{5}$? Express your answer as a mixed number.

_____

16. Ji and Layla played a game in which they scored 10 points for a correct answer and lost 20 points for an incorrect answer. Ji answered 7 questions correctly and 3 questions incorrectly. Layla answered 5 questions correctly and 1 question incorrectly. Who had the higher score? By how many points?

_____

17. Jenya answered 24 out of 30 questions correctly on her math test and 21 out of 25 questions correctly on her science test. On which test did she score higher? Explain your answer.

_____

18. Tom receives an allowance of $20 per week. If he bought 3 comic books for $2.75 each and an action figure for $10.99, how much of his allowance did he have left?

_____

Name _____ Date _____ Class_____

Adding and Subtracting Integers
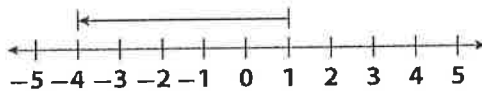
Module Quiz: B

1. Georgina works on the 30th floor of an office building. She took the elevator to the cafeteria on the 7th floor. How many floors did she travel?

   A 7   C 30

   B 23   D 37

2. Which of the following expressions has the greatest value?

   A $-3 + -4 - (-2)$ C $-3 + -4 - 2$

   B $-3 - (-4) - (-2)$ D $-3 - (-4) - 2$

3. Which of the following is modeled with the number line below?

   A $1 + (-4)$ C $1 - (-5)$

   B $1 + (-5)$ D $1 - (-4)$

4. Danielle is playing a game. She started with 10 points. In the first round she lost 20 points. In the second round she won 45 points. Which of the following shows the changes in Danielle's score?

   A $10 - 20 + 45$ C $-10 - 20 + 45$

   B $10 - 20 - 45$ D $-10 - 20 - 45$

5. Which of the following has the same value as $-10 + -3$?

   A $-10 - 3$ C $-3 + 10$

   B $-10 - (-3)$ D $-3 - (-10)$

6. Which of the following is the additive inverse of -3?

   A $-\dfrac{1}{3}$ C $\dfrac{1}{3}$

   B 0   D 3

7. What number can be added to -4 to get a sum of 0?

   A -4 C $\dfrac{1}{4}$

   B 0   D 4

8. Mike deposited $200 into his bank account. He then wrote checks for $20 and $30. Then he deposited $40 dollars more. Which of the following represents the changes in the value of Mike's account?

   A $200 - 20 - 30 + 40$

   B $200 - 20 + 30 + 40$

   C $200 + 20 - 30 - 40$

   D $200 + 20 - 30 + 40$

9. A submarine's elevation is -14 feet relative to sea level. A shark is swimming at an elevation of -56 feet. What is the difference in elevation between the submarine and the shark?

   A 42 ft   C 60 ft

   B 56 ft   D 70 ft

10. The temperature in Montreal was $-8°C$. In New York the temperature was $11°C$. How many degrees warmer was the temperature in New York?

    A 3   C 11

    B 8   D 19

11. What is the value of $-2 + 100 - (-50)$?

    A 48   C 150

    B 148   D 152

12. Danny scored 10 points in the first round of a game. He then lost 20 points in the second round. In the final round he earned 40 points. What was Danny's score at the end of the game?

    A 10   C 30
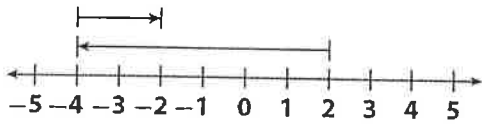
    B 20   D 40

MODULE 1 **Adding and Subtracting Integers**

13. Sean, Christian, Anthony, and Mike went to brunch together. Sean paid $30, Christian paid $10, and Anthony paid $20. If the total bill was $75, how much did Mike pay?

_____

14. Jenya deposited $400 into her bank account. A couple of days later she withdrew $50. The next day she deposited $20 more. A day later she withdrew $150.

Write an expression that represents the change in Jenya's account balance.

_____

15. Write an addition or subtraction problem that is modeled by the number line below.

16. Tyrell went to the park to go jogging. The beginning of the running path has an elevation of −2 feet. The highest elevation on the jogging path is 14 feet. What is the difference in elevation between the highest point and the beginning of the path?

_____

17. The value of $x + y$ is negative, and x is a positive integer. What must be true about y? Explain.

_____

_____

18. What is the value of $-3 - (-10) - 8$?

_____

19. **Temperature in Four Cities**

City	Temperature on Day 1 (°C)	Temperature on Day 2 (°C)
A	−5°	−1°
B	−12°	−8°
C	−11°	−2°
D	−3°	5°

A meteorologist recorded the temperature in four cities on two days last year, as shown in the table above. Which city had the greatest increase in temperature between the two days?

_____

20. The value of $x - y$ is negative, and x and y are both positive. What can you conclude about the values of x and y?

_____

21. Luisa claims that when she subtracts two negative integers, the result is always positive. Is she correct? Explain.

_____

_____

22. −2, −1, −1, 0, −1, 1, −2, ...

Find the next 3 numbers in the sequence above. Describe the pattern.

_____

_____

MODULE 2 — Multiplying and Dividing Integers

Module Quiz: B

1. A shopper uses a department-store gift card to pay for 3 sweaters priced at $27 each. What is the change in the value of the gift card?

   A −$81

   B −$27

   C −$24

   D $81

2. When her elevator was out of service, Debi walked down 21 flights of stairs. She stopped to rest after every 3 flights. How many times did Debi stop to rest?

   A −63

   B −31

   C 18

   D 7

3. Last week, Clay wrote 4 checks for $20 each from his checking account, withdrew another $30, and finally made a deposit of $96. What was the change in the balance of his account over the week?

   A −$46

   B −$14

   C $14

   D $46

4. Which expression would be evaluated as a positive number?

   A $\dfrac{(-3)(-4)}{(-6)}$

   B $\dfrac{(3)(-4)}{(6)}$

   C $\dfrac{(-3)(4)}{(6)}$

   D $\dfrac{(-3)(4)}{(-6)}$

5. Philip played a board game, and he drew 4 straight cards that read, "Go back 8 spaces." What is the change in Philip's position on the game board?

   A −136 spaces

   B −32 spaces

   C 46 spaces

   D 104 spaces

6. Manuel played an arcade game that cost 25 tokens per game. In six games, Manuel won 0 tokens, 10 tokens, 50 tokens, 0 tokens, 5 tokens, and 10 tokens. What is the change in the number of tokens Manuel has?

   A −85

   B −75

   C 75

   D 90

7. The low temperature for 5 days was −5°, −7°, −2°, 2°, and −3°. What was the average low temperature for those days?

   A −4°   C −2°

   B −3°   D −1°

8. A football team was given 3 penalties for 15 yards each and 2 penalties for 5 yards each. What was the total change in their field position from these penalties?

   A −85 yd

   B −75 yd

   C −55 yd

   D −20 yd

9. Amy bought 3 pounds of lemons at $2 per pound, a box of rice for $4, and 7 frozen dinners for $3 each. What is the change in the amount of money she has?

   A −$39

   B −$31

   C −$9

   D $31

MODULE 2

Multiplying and Dividing Integers

10. In 1924, the temperature in Fairfield, Montana, dropped from 63 degrees to −21 degrees in 12 hours. What was the average hourly change in temperature?

_____

11. a. Write a multiplication expression containing at least 3 terms that has a negative answer.

_____

   b. How could you change this expression so that it has a positive answer?

_____

12. Doug lost his measuring tape, so he had to estimate the length of a board he had to cut. He cut off 2 inches, but the board was still too long. He did this 4 times. After the fourth cut, the board was the right length. Write and find the value of an expression to find the change in the length of the board.

_____

13. The panda at the zoo became ill and lost 4 pounds every week for 5 weeks. In the sixth week, she began to feel better and gained 3 pounds. Write and find the value of an expression for the change in the panda's weight over these 6 weeks.

_____

14. Over 8 days, the price of a share of XYZ Company stock fell $72. On the ninth day, the price rose $4, but on the tenth day, it fell $12. Write and find the value of an expression for the average change in the price of the stock for these 10 days.

_____

15. The Salton Trough has an elevation of 69 meters below sea level. The Dead Sea Depression is almost 6 times deeper. Write and find the value of an expression for the approximate elevation of the Dead Sea Depression.

_____

16. Race car driver Mario won 3 races and earned 75 points for each win. During the fourth race, he had deductions of 55 points, 104 points, and 85 points, but earned 3 points for finishing. Write and find the value of an expression for how many points he has now.

_____

17. Deepak bought a new video game. While he learned how to play, he played 6 games and had a combined score of −1,044 points. Write and find the value of an expression for the average number of points he lost in the first 6 games.

_____

18. For 8 days of very hot weather, the water level in a lake dropped 3 inches per day. On the ninth day, storms raised the level 6 inches. Write and find the value of an expression for the change in the water level of the lake during these 9 days.

_____

19. Marla has a piece of fabric. She cuts off 8 inches and makes a bow for each of the dogs she grooms. Today she groomed 12 dogs. Write and find the value of an expression for the change in the length of the fabric.

_____

MODULE 3

Rational Numbers

Module Quiz: B

1. What is the product of −1.24 and 4.25?

   A −5.27   C 3.01

   B −3.01   D 5.49

2. Ben walked $\frac{2}{5}$ mile. Tonya walked $\frac{1}{4}$ mile. What fraction of a mile did they walk in total?

   A $\frac{1}{10}$ mi   C $\frac{7}{20}$ mi

   B $\frac{1}{3}$ mi   D $\frac{13}{20}$ mi

3. What is $6\frac{3}{8}$ written as a decimal?

   A 5.625   C 6.38

   B 6.375   D 8.6

4. Tameka built $\frac{1}{2}$ of a shed on Monday and $\frac{2}{5}$ of the shed on Tuesday. Tameka finished building the shed on Wednesday. What fraction of the shed did she build on Wednesday?

   A $\frac{1}{10}$ C $\frac{3}{7}$

   B $\frac{2}{5}$ D $\frac{9}{10}$

5. A box of cereal contains 23.4 ounces. It costs $5.49. What is the cost, to the nearest cent, of the cereal per ounce?

   A $0.23   C $4.26

   B $2.35   D $28.89

6. Syeda had $80.45 in her bank account on Monday. She deposited $20.50 on Tuesday. She then withdrew $37.25 on Wednesday. How much did Syeda have left in her account on Thursday?

   A $63.70   C $97.20

   B $80.45   D $138.20

7. A ribbon is $12\frac{3}{8}$ feet long. Into how many $\frac{3}{4}$-foot pieces can it be cut?

   A 9   C 15

   B 10   D 16

8. Alexander purchased a computer on sale. The original price was $1,200. The sale price was $\frac{5}{6}$ of the original price. How much did Alexander pay for the computer?

   A $900   C $1,144

   B $1,000   D $1,440

9. On a certain day the temperature in New York City was −4°C and the temperature in Austin was 10°C. How many degrees lower was the temperature in New York City?

   A 6°C   C 10°C

   B 7°C   D 14°C

10. A deep-sea diver descended from a rock that is 45 feet below sea level to a coral reef that is 88 feet below sea level. How far did the diver descend from the rock to the coral reef?

   A 43 feet   C 88 feet

   B 67 feet   D 123 feet

MODULE 3

Rational Numbers

11. Jared bought a cell phone for $42. Juanita spent $1\frac{1}{2}$ times as much. How much did she spend?

_____

12. What is the value of $-\frac{2}{5} \div \frac{3}{4}$?

_____

13. What is the product of –2.5 and 8.77?

_____

14. Jeunesse earned $725 dollars by working 5 days in a week. What is the average amount that she earned per day?

_____

15. Ben paid $900 for a sofa. The price of the sofa Juana purchased was $\frac{2}{3}$ the price that Ben paid. How much did Juana pay for her sofa?

_____

16. Anna made 400 quarts of lemonade. She poured the lemonade into containers. Each container holds $\frac{4}{7}$ of a quart. How many containers did Anna use?

_____

17. Sanin went to the store to buy groceries. He bought a box of cereal for $5.29, a gallon of milk for $2.49, and a quart of juice for $3.79. He paid the cashier with a $20 bill. How much change did Sanin receive?

_____

18. What is the value of $-6 + -3 - (-18)$?

_____

19. Mara finished $\frac{1}{5}$ of her assignment on Saturday and $\frac{3}{8}$ of her assignment on Sunday. What fraction of her assignment did she complete on Saturday and Sunday?

_____

20. Jean-Claude equally shared a box of chocolates with two of his friends. The box weighed $\frac{9}{5}$ pounds. How many pounds of chocolate did each person receive?

_____

21. The Smith family took a car trip. They traveled $\frac{1}{2}$ the distance from San Antonio to Austin on Monday and $\frac{3}{12}$ the distance on Tuesday. What fraction of the distance between San Antonio and Austin did the Smith family travel on Monday and Tuesday?

_____

22. Amory ate $\frac{1}{4}$ of a box of cereal. Blaine ate $\frac{2}{9}$ of the same box. What fraction of the box of cereal did they eat together?

_____