UNIT 1 MIXED REVIEW

Assessment Readiness

Selected Response

1. Which number line shows an integer and its opposite?
   - A. 
   - B. 
   - C. 
   - D. 

2. Kyle is currently 60 feet above sea level. Which correctly describes the opposite of Kyle's elevation?
   - A. 60 feet below sea level
   - B. 60 feet above sea level
   - C. 6 feet below sea level
   - D. At sea level

3. Which set or sets does the number –22 belong to?
   - A. Whole numbers only
   - B. Rational numbers only
   - C. Integers and rational numbers only
   - D. Whole numbers, integers, and rational numbers

4. Carlos swam to the bottom of a pool that is 12 feet deep. What is the opposite of Carlos's elevation relative to the surface?
   - A. 12 feet
   - B. 0 feet
   - C. 1 foot
   - D. 27 feet

5. Which of the following shows the integers in order from greatest to least?
   - A. 18, 4, 3, –1, –5
   - B. –2, 3, 4, –15, 18
   - C. –15, –2, 3, 4, 18
   - D. 18, –15, 4, 3, –2

6. Joanna split three pitchers of water equally among her eight plants. What fraction of a pitcher did each plant get?
   - A. \( \frac{1}{3} \) of a pitcher
   - B. \( \frac{1}{8} \) of a pitcher
   - C. \( \frac{1}{2} \) of a pitcher
   - D. \( \frac{1}{4} \) of a pitcher

7. Which is another way to write 42 + 63?
   - A. \( 7 \times (6 + 7) \)
   - B. \( 7 \times 6 + 9 \)
   - C. \( 7 \times 6 + 5 \)
   - D. \( 7 \times 6 + 7 \)

8. What is the LCM of 9 and 15?
   - A. 45
   - B. 90
   - C. 135
   - D. 15

9. What is the GCF of 40 and 72?
   - A. 2
   - B. 4
   - C. 12

10. The temperature on the fifth day was the absolute value of the temperature on the fourth day. What was the temperature?
    - A. \( -3 \) °F
    - B. \( 3 \) °F
    - C. \( -4 \) °F
    - D. \( -3 \) °F

11. Write the temperatures in order from least to greatest: \( -4, -3, 0, 3 \)
    - A. \( -4, -3, 0, 3 \)
    - B. \( -3, -2, 0, 3 \)
    - C. \( -4, -3, 1, 3 \)
    - D. \( -4, -2, 0, 3 \)

12. What is the difference in temperature between the coldest day and the warmest day?
    - A. \( -7 \) °F
    - B. \( -4 \) °F
    - C. \( 3 \) °F
    - D. \( 7 \) °F

13. Write the temperatures in order from least to greatest: \( -4, -3, 0, 3 \)
    - A. \( -4, -3, 0, 3 \)
    - B. \( -3, -2, 0, 3 \)
    - C. \( -4, -3, 1, 3 \)
    - D. \( -4, -2, 0, 3 \)

14. What is the GCF of 40 and 72?
    - A. 2
    - B. 4
    - C. 12

15. Stella is recording temperatures every day for 5 days. On the first day, Stella recorded a temperature of 0 °F.
    - A. On the second day, the temperature was 3 °F above the temperature on the first day. What was the temperature on the second day?
    - B. On the third day, it was 4 °F below the temperature of the first day. What was the temperature?
    - C. The temperature on the fourth day was the opposite of the temperature on the second day. What was the temperature?

16. Marco is making mosaic garden stones using red, yellow, and blue tiles. He has 45 red tiles, 90 blue tiles, and 75 yellow tiles. Each stone must have the same number of each color tile. What is the greatest number of stones Marco can make?
    - A. 15
    - B. 30
    - C. 45
    - D. 90

Mini-Task

17. How many of each color tile will Marco use in each stone?
    - A. 3 red, 6 blue, 5 yellow
    - B. 4 red, 10 blue, 15 yellow
    - C. 5 red, 10 blue, 15 yellow
    - D. 6 red, 12 blue, 15 yellow

He can multiply the GCF by the sum of the other factors.
\[ 15 \times (3 + 6 + 15) = 15 \times 24 \]
ANSWER KEYS TO UNIT REVIEWS

UNIT 3

1. The shortest part of a swimming pool is the deep end. The shallowest part of the pool is the pool's edge. What is the difference in depth of the pool? 15 meters

2. How many containers are in 15 meters?
   - 15 containers

3. Barbara can walk 300 meters in 24 minutes. How far can she walk in 1 hour?
   - 1000 meters

4. Which represents the number of containers?
   - 40 containers

5. The graph below represents Dwayne's speed while riding his bike.
   - Which would be an ordered pair on the line?
   - (1, 3)

6. Which of these could be the shaded grid?
   - Black and white

7. Maria runs 5 miles in 1 hour. How many miles can she run in 3 hours? 15 miles

8. On Tuesday, Claire and Mia both ran for 3 hours. Who ran the farther distance?
   - Claire

9. A department store is having a sale. What is $230 per bush?
   - $230

10. A recipe calls for 6 cups of water and 4 cups of flour. How many more cups of water are used?
    - 2 cups

11. Claire and Mia are training for a race. Claire runs 10 km in 1 hour. How many km can she run in 2 hours?
    - 20 km

12. If the recipe is increased to use 2 cups of water, how much flour should be used?
    - 9 cups

13. If the recipe is increased to use 6 cups of water and 4 cups of flour, how much water should be used?
    - 9 cups

14. Which shows the integers in order from least to greatest?
    - -3, -1, 0, 2, 3

15. Maria is making a salad. For every 8 glasses of water, Maria adds 3 cups of vegetable. How many glasses of water would Maria need to add 9 cups of vegetable?
    - 24 glasses

16. What is the ratio of water to flour?
    - 6 to 4

17. If the recipe calls for 2 cups of water, how much flour should be used?
    - 8 cups

18. If the recipe is increased to use 4 cups of water, how much flour should be used?
    - 16 cups

19. How do you convert 15 ft to inches?
    - Multiply 15 ft by 12 in/ft and 12 in/ft

20. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

21. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

22. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

23. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

24. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

25. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

26. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

27. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

28. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

29. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

30. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

31. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

32. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

33. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

34. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

35. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

36. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

37. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

38. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

39. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

40. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

41. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

42. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

43. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

44. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

45. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

46. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

47. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

48. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

49. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

50. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

51. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

52. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

53. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

54. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

55. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

56. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

57. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

58. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

59. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

60. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

61. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

62. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

63. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

64. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

65. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

66. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

67. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

68. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

69. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

70. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

71. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

72. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

73. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

74. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

75. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

76. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

77. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

78. If you convert 15 ft to inches, how many inches are there?
    - 180 inches

79. If you convert 15 ft to inches, how many feet are there?
    - 5 feet

80. If you convert 15 ft to inches, how many inches are there?
    - 180 inches
ANSWER KEYS TO UNIT REVIEWS

UNIT 4 MIXED REVIEW

Selected Response

1. Which expression is equivalent to \(2.3 \times 2.3 \times 2.3 \times 2.3\)?
   - (a) 2.3 \times 5
   - (b) 23
   - (c) 21 \times 33
   - (d) 23

2. Which operation should you perform first when you simplify \(63 - (2 + 54 \times 6) \div 57\)?
   - (a) addition
   - (b) division
   - (c) multiplication
   - (d) subtraction

3. Shena was organizing items in a scrapbook. She took 25 photos and divided them evenly between \(p\) pages. Which algebraic expression represents the number of photos on each page?
   - (a) \(p - 25\)
   - (b) \(25 - p\)
   - (c) \(\frac{25}{p}\)
   - (d) \(25\)

4. Which is another way to write \(7 \times 7 \times 7 \times 7\)?
   - (a) 7
   - (b) 704
   - (c) 28
   - (d) 4

5. Angela earns \(x\) dollars an hour. On Friday, she worked 6 hours. On Saturday, she worked 8 hours. Which expression shows how much she earned both days?
   - (a) 6x + 8
   - (b) 8x + 6x
   - (c) 60 + 8x
   - (d) \(\frac{x}{5}\)

6. Marcus is doing a science experiment in which he measures the rate at which bacteria multiply. Every 15 seconds, the bacteria double in number. If there are 10 bacteria now, how many will there be in 2 minutes?
   - (a) 160 bacteria
   - (b) 256 bacteria
   - (c) 1,280 bacteria
   - (d) 2,560 bacteria

7. The prime factorization of which number is \(21 \times 37\)?
   - (a) 50
   - (b) 125
   - (c) 160
   - (d) 500

8. Which expression has a value of 36 when \(x = 4\) and \(y = 77\)?
   - (a) 2xy
   - (b) 2x + 4y
   - (c) 6y - x
   - (d) 12x - 2y

9. What should you do first to simplify the expression \((4x + 9y) \div 76\) by 76?
   - (a) Add 4 and 9.
   - (b) Add 76 and 5.
   - (c) Multiply \(4 \times 4\) and 4.
   - (d) Divide \((4 \times 9)\) by 76.

10. Which ratio is equivalent to \(4:10\)?
    - (a) \(\frac{2}{5}\)
    - (b) \(\frac{1}{5}\)
    - (c) \(\frac{4}{5}\)
    - (d) \(\frac{2}{10}\)

Mini-Tasks

13. For every bag of trail mix, the local Scout Guide troop sells, they earn \$0.45.
   - (a) Write an expression to represent this situation.
     \$0.45 \times t
   - (b) Sarah sold 52 bags of trail mix. How much did she earn for her troop?
     \$0.45 \times 52 = \$23.40
   - (c) Let \(x\) represent the total number of bags of trail mix sold by Sarah’s troop.
     Write an expression to show what percentage of bags Sarah sold.
     \frac{52}{x} \times 100

14. Robert is replacing sod in two square-shaped areas of his backyard. One side of the first area is 7.5 feet. One side of the other area is 3.7 feet. The sod costs \$y\) dollars per square foot.
   - (a) Write an expression to show how much Robert will spend on sod.
     \((7.5^2 + 3.7^2)y\)
   - (b) If the sod costs \$3.25 per square foot, about how much will Robert spend to put sod down in both areas of his backyard? Round to the nearest dollar.
     \((7.5^2 + 3.7^2)\times 3.25 = 288.405; 288\)

15. Jose wants to find how many gallons of water he needs to fill his cube-shaped aquarium. One side of his aquarium is 4 feet long.
   - (a) Write and solve an expression to find the volume of Jose’s aquarium.
     \(V = 4^3, V = 64\) cubic feet
   - (b) One cubic foot is equal to 7.48 gallons of water. How many gallons of water does Jose need to fill his aquarium? Round to the nearest gallon.
     \(64 \times 7.48 = 478.72, 479\) gallons
ANSWER KEYS TO UNIT REVIEWS

UNIT 6 MIXED REVIEW

Assessment Readiness

Selected Response

1. A piece of cardboard that is 4.5 inches square is used to make a frame with a 4-inch square cut out from the center of the cardboard. What is the final area of the frame?

   - 18 in²

2. Jerome is pouring a mixture of water into a rectangular prism container. The container has a length of 8 inches, a width of 6 inches, and a height of 4 inches. If the container is filled with water to a height of 3 inches, what is the volume of water in the container?

   - 144 in³

3. The area of a trapezoid is 50 square inches, and one of its bases is 10 inches long. Which expression represents the sum of 59 and the unknown base of the trapezoid?

   - 59 + x

4. The base of a triangle is 20 inches, and the height is 12 inches. What is the area of the triangle?

   - 120 square inches

5. A rectangular prism has a length of 4 inches, a width of 3 inches, and a height of 2 inches. What is the volume of the rectangular prism in cubic inches?

   - 24 in³

6. Which equation could be used to calculate the height of the rectangular prism?

   - 2h = 475

7. A rectangular prism has a volume of 1,000 cubic inches. Which expression could be used to find the height of the rectangular prism?

   - 5h = 500

8. Which expression represents the sum of 59 and 59?

   - 59 + 110.5

9. A rectangular prism has a length of 5 inches, a width of 3 inches, and a height of 2 inches. Which expression could be used to find the volume of the rectangular prism?

   - 5wh

10. A rectangular prism has a length of 3 inches, a width of 2 inches, and a height of 4 inches. Which expression could be used to find the volume of the rectangular prism?

   - 3h = 1,200
Selected Response

1. Suppose you have developed a scale that indicates the brightness of sunlight. Each category in the table is 9 times brighter than the category above it. For example, a day that is dazzling is 9 times brighter than a day that is radiant. How many times brighter is a dazzling day than an illuminated day?

<table>
<thead>
<tr>
<th>Sunlight Intensity</th>
<th>Category</th>
<th>Brightness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dim</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Illuminated</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Radiant</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Dazzling</td>
<td>5</td>
</tr>
</tbody>
</table>

   - 2 times brighter
   - 729 times brighter
   - 81 times brighter
   - 9 times brighter

2. Which group of numbers is in order from least to greatest?
   - $2, 5, 6, 2, 6$
   - $2, 6, 2, 6, 2$
   - $2, 5, 6, 2, 6$
   - $2, 6, 2, 6, 2$

3. Which temperature is coldest?
   - $-13 \, ^\circ F$
   - $-20 \, ^\circ F$
   - $20 \, ^\circ F$
   - $13 \, ^\circ F$

4. Patricia paid $385 for 5 nights at a hotel. Find the unit rate.
   - $77 \, \text{night}$
   - $77 \, \text{night}$
   - $77 \, \text{night}$
   - $77 \, \text{night}$

5. The fuel for a chair saw is a mix of oil and gasoline. The label says to mix 6 ounces of oil with 16 gallons of gasoline. How much oil would you use if you had 32 gallons of gasoline?
   - 3 ounces
   - 18 ounces
   - 12 ounces
   - 85.3 ounces

6. Lee is putting together fruit baskets for gifts. He has 18 apples, 24 pears, and 30 oranges. What is the greatest number of fruit baskets he can make if he uses all the fruit and each basket is the same?
   - 2 baskets
   - 4 baskets
   - 6 baskets

7. It takes light about 134 milliseconds to travel the distance around Earth’s Equator. How many seconds is this?
   - 0.000134 sec
   - 0.134 sec
   - 0.0134 sec
   - 1.34 sec

8. From the beginning of cross-country season to the end, Tisha reduced her time by 17%, Anchita reduced hers by $\frac{1}{3}$, Juanita reduced hers by $\frac{1}{5}$, and Julia reduced hers from 16:00 to 13:30. Who reduced her time by the greatest percent?
   - Tisha
   - Juanita
   - Anchita
   - Julia

9. A stack of blocks is 15.2 inches tall. If there are 10 blocks stacked one on top of the other, how tall is each block?
   - 1.62 inches
   - 1.72 inches
   - 1.52 inches
   - 5.2 inches

10. The ratio of students in Jaime’s class who don’t have a dog or cat at home to those who do is 12:8. What percent of the class do NOT have a dog or cat at home?

   - $33\frac{1}{3}$%
   - 60%
   - 40%
   - 66 2/3%

11. Ninety percent of a school’s students, or 540 students, attended a school assembly. How many students are there at the school?

   - 486 students
   - 600 students
   - 594 students
   - 621 students

12. Find the quotient $\frac{2}{15} \div \frac{2}{15}$.

   - 1
   - 2
   - 18
   - 15

13. Find the product $4.51 \times 3.4$.

   - 153.34
   - 7.91
   - 15.334
   - 153.34

14. Jorge is building a table out of boards that are 3.75 inches wide. He wants the table to be at least 36 inches wide. What is the least number of boards he can use?

   - 9
   - 10
   - 9.6
   - 135

Mini-Tasks

15. Nikita is making spaghetti sauce and pizzas for a large party. Her spaghetti sauce recipe calls for $\frac{1}{3}$ cups of tomato paste, and her pizza recipe uses $\frac{1}{4}$ cup of tomato paste per pizza. She will triple her spaghetti sauce recipe and make 6 pizzas. Write and evaluate an expression for how many $\frac{1}{4}$ cups of tomato paste she will need in all.

   $\frac{3}{1} \times \frac{3}{2} + \frac{3}{4} \times 6 = \frac{12}{4} = 3$ cans.

16. Explain how you can use multiplication to find the quotient $\frac{4}{3} \div \frac{3}{4}$. Then evaluate the expression.

   Multiply by the reciprocal of the divisor: $\frac{4}{3} \times \frac{3}{4} = \frac{4}{3} \times \frac{3}{4} = \frac{4}{3}$.

17. A chef has 6 cups of berries and will use $\frac{1}{4}$ cup of berries for each serving of fruit salad. How many servings can be made?

   - 9 servings

Performance Task

18. School A has 480 students and 16 classrooms. School B has 192 students and 12 classrooms.

   - Part A: What is the ratio of students to classrooms at School A?
   - Part B: What is the ratio of students to classrooms at School B?
   - Part C: How many students would have to transfer from School A to School B for the ratio of students to classrooms at both schools to be the same? Explain your reasoning.

   - Part A: 30 students to 1 classroom
   - Part B: 16 students to 1 classroom
   - Part C: 96 students would have to transfer from School A to School B.

Since there are 28 classrooms and 672 students at both schools, the ratio of students to classrooms should be 24:1. There should be 16 × 24 or 384 students at School A, and 12 × 24 or 288 students at School B.
ANSWER KEYS TO UNIT REVIEWS

Performance Task

15. Jillian wants to find the surface area of a pyramid. The base is a square with sides that are 8 inches long. One other face focuses on the height of each triangle to its base. 1.2. The area of the triangular faces, Part A: Find the area of the triangular faces. Part B: Find the base length and the height.

Mini-Task

11. Mike was in charge of collecting contributions for the food bank. He collected $5, 6, 5, 4, 5, 6, 8, and $50. The mean and the median of the contributions

mean: $66; median: $50

Part A: Base: 4 meters; height: 6 feet
Part B: 48 square inches
Part C: 10 square inches

Benchmark Test

BENCHMARK TEST

GRADE 6 PART 2

Selected Response

1. Khalil is recording a best for a song that he wants the best to be 10 seconds long. His friend tells him the best needs to be 5 seconds longer. Write an inequality to represent the best's height. Give three possible best heights.

2. Write an expression for the missing value in the table.

3. What is the area of the polygon?

Part A: base: 4 meters; height: 6 feet
Part B: 48 square inches
Part C: 10 square inches