Name _____ Period _____ Date _____

Grade 7 Unit 2 Model Curriculum Assessment

For multiple-choice questions, circle the best answer.
For all other questions, respond in the space provided.

1. Simplify the expression $(-5.62x - 0.8) + (1.12 + 1.4x)$.
   Show your work.

2. Which of the following is equivalent to the expression $\frac{1}{2}x + 4x - \frac{1}{2}x + 60$?

   a. $3(x + 20)$
   b. $4(x + 15)$
   c. $4(x + 60)$
   d. $5(x + 12)$

3. Is the expression $-12x - 18$ equivalent to the expression $-6x - 9 - 3(3 - 2x)$? Explain your answer by showing your work.

4. Which of the following is a simplified form of the expression $\frac{3}{7} + \frac{4}{7}\left(7x - \frac{7}{4}\right)$?

   a. $4x - \frac{4}{7}$

   b. $4x + \frac{10}{7}$

   c. $7x - \frac{7}{4}$

   d. $28x - \frac{46}{7}$

5. A pair of jeans costs x dollars and is subject to 7% sales tax. Using only one step, which of the following expressions could be used to find the final cost of the pair of jeans, in dollars?

   a. $0.07x$

   b. $1.07x$

   c. $x + 7x$

   d. $1 + 0.07x$

6. Elena bought a book for 25 percent less than the original price. The original price was y dollars. Which of the following expressions could be used to find the reduced price of the book in one step?

a. $0.25y$
b. $0.75y$
c. $y - 25y$
d. $y - 75y$

7. Five consecutive integers may be defined as shown below.

1st integer = x
2nd integer = $x + 1$
3rd integer = $x + 2$
4th integer = $x + 3$
5th integer = $x + 4$

Show that the sum of five consecutive integers is equal to 5 times the middle integer.

8. Josh earned a total of x points in his math class last marking period. The number of points he earned in each of four categories was divided as follows.

Homework	=	$\frac{1}{5}$ of the total points
Quizzes	=	$\frac{1}{4}$ of the total points
Tests	=	$\frac{1}{2}$ of the total points
Classwork	=	__ of the total points

Josh knows he can determine the number of points earned for classwork by evaluating the expression $x - \left(\frac{1}{5}x + \frac{1}{2}x + \frac{1}{4}x\right)$. He says he can also use the expression $0.5x$ to determine the number of points earned for classwork more easily. Is Josh correct? Explain your reasoning.

9. Five years after it was purchased, a car had lost $\frac{3}{5}$ of its original value. The value of the car five years after it was purchased can be represented by the expression $v - \frac{3}{5}v$, where v is the original value of the car. Which of the following describes another way to find the value of the car five years after it was purchased?

a. Adding $\frac{2}{5}$ to the original value

b. Subtracting $\frac{2}{5}$ from the original value

c. Multiplying the original value by $\frac{2}{5}$

d. Dividing the original value by $\frac{2}{5}$

10. During the first year Sherry worked as a lifeguard, she was paid at a rate of $12.75 per hour. At the beginning of her second year, she received a 5 percent raise. Which of the following strategies gives the amount of Sherry's raise?

a. Divide $12.75 by 5 to find the number of cents in Sherry's raise.

b. Divide $12.75 by 2 to find the number of cents in Sherry's raise.

c. Divide by 10 by moving the decimal point in $12.75 one place to the left, then divide the result by 5 to find the number of dollars in Sherry's raise.

d. Divide by 10 by moving the decimal point in $12.75 one place to the left, then divide the result by 2 to find the number of dollars in Sherry's raise.

11. A recipe that yields 2 loaves of bread requires $2\frac{1}{2}$ cups of flour. Edgar has a bag that contains $18\frac{3}{4}$ cups of flour. How many cups of flour will be left in the bag if Edgar follows the recipe and makes 6 loaves of bread? Show your work.

12. A certain type of cereal is sold in boxes of two different sizes. The price of the 8-ounce box is $2.48, and the price of the 14-ounce box is $3.36. How much greater is the cost per ounce of cereal in the 8-ounce box than in the 14-ounce box?

    a. $0.07 per ounce
    b. $0.15 per ounce
    c. $0.24 per ounce
    d. $0.31 per ounce

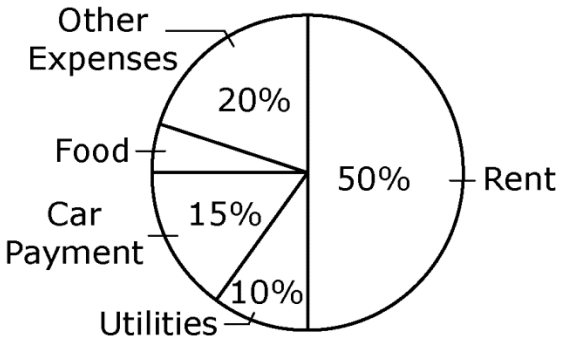
13. A problem from a math book is shown in the box below.

> The sale price of a music player was 25 percent less than its original price. The sale price was $26.79. What was the original price of the music player?

Kristen's answer to the problem is $44.49. Is Kristen's answer reasonable? Explain your answer using estimation.

14. Carl's monthly income is $4,000. The circle graph below shows Carl's monthly budget.

CARL'S MONTHLY BUDGET



Part A How much money did Carl budget for food each month? Show your work.

Part B Carl budgeted $60 each month for clothes. What percent of the money budgeted for Other Expenses is budgeted for clothes? Show your work.

15. A water jug is filled $\frac{2}{3}$ of the way to the top. After members of a soccer team drink a total of 132 fluid ounces of water, the jug contains 348 fluid ounces of water. Which of the following equations can be used to find the number of fluid ounces, w, the water jug holds when it is filled all the way to the top?

a. $\frac{2}{3}w - 132 = 348$

b. $\frac{2}{3}w + 132 = 348$

c. $\frac{2}{3}(w - 132) = 348$

d. $\frac{2}{3}(w + 132) = 348$

16. Jamie buys 3 snacks and 2 bottles of juice. Each snack costs \$0.75, and each bottle of juice costs j dollars. The total cost of the snacks and bottles of juice is \$6.75. Which of the following equations could be used to find the cost of a bottle of juice, in dollars?

a. $0.75 + 2j = 6.75$

b. $2.25 + 2j = 6.75$

c. $3(0.75 + 2j) = 6.75$

d. $5(0.75 + j) = 6.75$

17. At the beginning of the basketball season, Reuben sets a goal to score more than 300 points during the season. The table below shows the number of points he scored in each of the first five games of the season.

Game	1	2	3	4	5
Number of Points	9	21	14	17	22

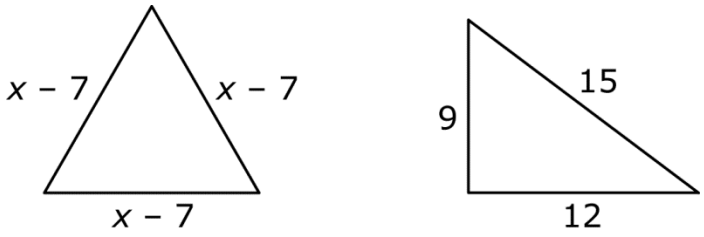
There are 15 games remaining in the season.

Write an inequality that can be used to find the average number of points per game that Reuben needs to score over the remaining games in order to score more than 300 points. You do **NOT** need to solve the inequality.

18. Lyla is shopping for school supplies. She has $20.00 to spend. She plans to buy a package of pens for $4.98. She also wants to buy a calculator. All calculators are being sold for 30 percent less than the original price. Which of the following inequalities can be used to find the original price, x, of a calculator Lyla can buy?

a. $4.98 - 0.3x \leq 20$
b. $4.98 + 0.7x \leq 20$
c. $4.98 - 0.3x \geq 20$
d. $4.98 + 0.7x \geq 20$

19. The perimeters of the triangles shown below are equal. Which of the following equations can be used to find the value of x ?



a. $3x - 7 = 36$

b. $3x - 7 = 54$

c. $3(x - 7) = 36$

d. $3(x - 7) = 54$

20. Suri saved $50 of her paycheck the first week she worked and $25 of her paycheck each week after the first week. How many weeks did it take Suri to save a total of $1,000 ?

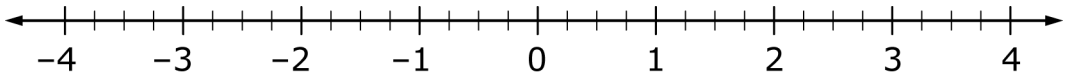
a. 20
b. 38
c. 39
d. 40

21. Solve the equation $\frac{6}{7}\left(y - \frac{3}{4}\right) = -\frac{5}{14}$ for y.

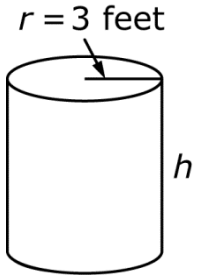
22. Nora started a business making bracelets. She spent $75.00 on advertising and $35.00 on supplies. She sells each bracelet for $1.50. What is the least number of bracelets Nora needs to sell to make more money than she spent? Show your work.

23. Solve the inequality below and graph the solution on the number line.

$$-3.15 < 2.5x + 0.6$$



24. The expression $2\pi r^2 + 2\pi rh$ can be used to find the surface area of a right circular cylinder, where r is the radius of the cylinder and h is the height of the cylinder. The tank below has a surface area greater than or equal to 42π square feet.



Which inequality represents all the possible heights, in feet, of the tank?

a. $h \geq 4$
b. $h \geq 4\pi$
c. $h \geq 16$
d. $h \geq 16\pi$