

Name \_\_\_\_\_

1. Evaluate the expression below.

$$(4.5 + 7.6) - 8 \div 2.5$$

2. Large balloons are sold in packages of 12. Select the expressions that can represent the total number of balloons in  $p$  packages of large balloons.

- $12 - p$   
  $12 \times p$   
  $p + 12$   
  $p \div 12$   
  $12p$

3. Select each expression that has a value of 15 when  $x = 15$ .

- $\frac{x}{3} + 10$   
  $15,521 \div x$   
  $(3,015 \div x) - 186$   
  $20x^2 \div 30$   
  $\frac{2x^2}{5} - 25$

4. The same digits are used for the expressions  $3^4$  and  $4^3$ . Explain how to compare the values of the expressions.

5. For questions 5a–5d, choose Yes or No to tell whether the expressions are equivalent.

5a.  $4(5c + 3)$  and  $9c + 7$        Yes  No

5b.  $10f - 10$  and  $2(8f - 5)$        Yes  No

5c.  $12g + 21$  and  $3(4g + 7)$        Yes  No

5d.  $6(4j - 6)$  and  $24 - 36j$        Yes  No

6. For questions 6a–6d, choose Yes or No to tell whether 3 is the GCF of the pair of numbers.

6a. 9, 15       Yes  No

6b. 12, 18       Yes  No

6c. 15, 27       Yes  No

6d. 30, 45       Yes  No

7. Mr. Parker wants to rent a cargo van for a day. It will cost the daily fee of \$50 plus \$0.35 per mile driven.

**Part A**

Let  $m$  = the number of miles Mr. Parker drives for the day. Write an expression that shows the amount he will pay for the van.

**Part B**

Evaluate the expression you wrote to find the amount Mr. Parker will pay if he drives 80 miles.

8. Jase wrote the prime factorization of 99. Which expressions could he have written? Select all that apply.

- $3^2 \times 11$   
  $9 \times 9$   
  $3 \times 3 \times 3 \times 11$   
  $3^4$   
  $3 \times 3 \times 11$

9. Evaluate the expression  $6.908 - g$  for  $g = 0.173$ .

10. Jamie volunteers at the pet shelter every 3 days and at the food pantry every 6 days. This month he volunteers at the pet shelter on the 3rd day of the month and at the food pantry on the 6th day of the month. Jamie says that the first time he will volunteer at both places will be the 18th day of the month because the LCM of 3 and 6 is 18.

Does Jamie's reasoning make sense? Use an example or a counterexample to explain your analysis.

11. Select the expressions that are equivalent to  $12n - 8$ .

- $3n + 4 + 3n + 4 + 4n$   
  $11n + 4 + n - 12$   
  $6(6n - 2)$   
  $4(3n - 2)$   
  $4n + 2^2 - 12 + 8n$