Student: _____	**Instructor:** Allison Sears	**Assignment:** 1-6 Mixed Review
Date: _____	**Course:** digits - grade 6 (1)	
Time: _____	**Book:** digits - grade 6	

1. Use prime factorization to find the greatest common factor (GCF) of 66 and 8.

The GCF of 66 and 8 is ☐.

2. **Estimation** You want to make bouquets of balloons. You choose 55 orange and 45 pink balloons. Every bouquet will have the same number of each color. What is the greatest possible number of bouquets you can make using all the balloons? Estimate how much you will earn if you sell each bouquet for $4.96.

What is the greatest possible number of bouquets you can make?

☐ bouquets

Estimate how much you will earn.

You will earn about $☐.
(Round to the nearest whole number as needed.)

3. Use the Distributive Property to write an expression equivalent to $5(9+6)$.

Which expression is equivalent to $5(9+6)$ by the Distributive Property?

- ○ A. $5(9)+5(6)$
- ○ B. $5(15)$
- ○ C. $(5+9)(5+6)$
- ○ D. $5(9)+6$

4. Find the prime factorizations of 14 and 35. Then use the prime factorizations to find the least common multiple (LCM) of 14 and 35.

The prime factorization of 14 is ☐.

The prime factorization of 35 is ☐.

The LCM of 14 and 35 is ☐.
(Simplify your answer.)

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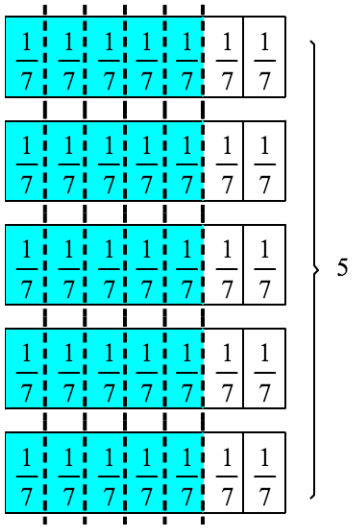
5. **Writing** Write a multiplication equation for the model. Use pencil and paper. Explain how the model "works" for your equation. Then describe a situation that the model and your equation could represent.



Which multiplication equation matches the model?

A. $\frac{5}{7} \times 5 = \frac{25}{7}$ or $3\frac{4}{7}$

B. $\frac{5}{3} \times 5 = \frac{25}{3}$ or $8\frac{1}{3}$

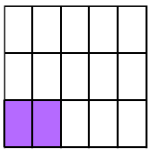
C. $\frac{5}{7} \times 7 = \frac{25}{7}$ or $3\frac{4}{7}$

D. $\frac{5}{7} \times 5 = \frac{7}{25}$

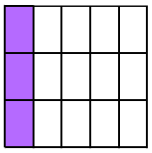
6. Draw an area model for the product $\frac{1}{3} \times \frac{2}{5}$. Use the model to help you find the product.

Which area model shows $\frac{1}{3} \times \frac{2}{5}$?

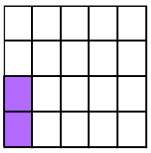
A.



B.



C.



Find the product.

$\frac{1}{3} \times \frac{2}{5} =$ ☐ (Type a whole number or a simplified fraction.)

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7. Multiply. Write the product in simplest form.

$$\frac{3}{10} \cdot \frac{1}{5}$$

$\frac{3}{10} \cdot \frac{1}{5} = \square$

8. Find $\frac{1}{2} \times 2\frac{1}{5}$.

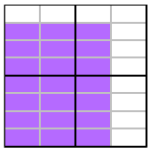
$\frac{1}{2} \times 2\frac{1}{5} = \square$

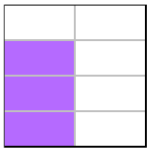
(Simplify your answer. Type a whole number, proper fraction, or mixed number.)

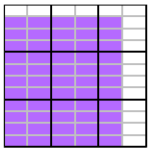
9. Use an area model to help you multiply $1\frac{3}{4} \times 1\frac{1}{2}$.

Which area model represents $1\frac{3}{4} \times 1\frac{1}{2}$?

○A. ○B. ○C.







Multiply.

$1\frac{3}{4} \times 1\frac{1}{2} = \square$

(Simplify your answer. Type a whole number, proper fraction, or mixed number.)

10. A construction worker has a rope that is 8 ft long. She needs to cut it into pieces that are each $\frac{2}{9}$ ft long. How many such pieces can she cut without having any rope leftover?

She can cut $\square$ pieces that are $\frac{2}{9}$ ft long from the 8-ft rope.

(Type a whole number, proper fraction, or mixed number.)

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11. A radio telescope array is in an unpopulated desert region. The array covers a rectangular area that is $\frac{1}{2}$ square kilometer. The array is $\frac{1}{4}$ kilometer wide. How long is the array?

The array is ☐ kilometers long.
(Simplify your answer.)

12. Find $\frac{3}{5} \div \frac{4}{15}$. Use pencil and paper. Before you begin to calculate, explain how you can tell that there will be common factors to remove while you calculate.

$\frac{3}{5} \div \frac{4}{15} =$ ☐ (Simplify your answer.)

13. A rectangle has area $2\frac{1}{4}$ in.^{2} and length 3 in. Divide its area by its length to find its width. Use pencil and paper. Find dimensions of a second rectangle that has the same area as this rectangle. Show two different ways to do this.

The rectangle is ☐ in. wide.
(Type a whole number, proper fraction, or mixed number.)

14. You are on a 6.3-mile run and have already run 1.71 miles. How many more miles do you need to run?

You need to run ☐ more miles.
(Type a whole number or a decimal.)

15. A plumber uses two copper pipes to repair a drain. Tube A is 2.72 in. long. Tube B is 0.95 in. long. How much longer is Tube A than Tube B?

Tube A is ☐ in. longer than Tube B.
(Type a whole number or a decimal.)

16. **Stamp Dimensions** A rectangular stamp has length 3.65 cm and width 2.6 cm. What is the area of the stamp?

The area is ☐ cm^2.
(Type a whole number or a decimal.)

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17. Simplify the expression.

$12{,}400 \div 390$

$12{,}400 \div 390 =$ ☐ R ☐

18. A small airplane can hold 13 people per trip. How many trips would it take the airplane to transport 7,835 people?

It would take ☐ trips to transport all the people.

19. Find $114.8 \div 14$.

$114.8 \div 14 =$ ☐

20. Write the word form and fraction form of 0.333.

What is the word form of 0.333?

- ◯ A. three hundred thirty-three thousand
- ◯ B. three hundred thirty-three hundredths
- ◯ C. three hundred thirty-three thousandths
- ◯ D. three hundred thirty-three tenths

What is the fraction form of 0.333?

- ◯ A. $\frac{1}{333}$
- ◯ B. $\frac{333}{1{,}000}$
- ◯ C. $\frac{333}{100}$
- ◯ D. $\frac{333}{10}$

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21. Order the numbers from least to greatest.

0.185 0.18 0.184

Order the numbers from least to greatest.

0.185 0.184 0.18	0.18 0.185 0.184	0.18 0.184 0.185

22. Evaluate 15s for s = 12. Use pencil and paper. Write a new expression that uses the same variable s. Evaluate the new expression for s = 12.

15s = ☐

(Type a whole number.)

23. What is the value of y^3x if y = 2 and x = 7?

y^3x = ☐

24. For an order of T-shirts, a sports store manager makes a table showing the costs of 1, 4, and 9 T-shirts. Let s represent the number of T-shirts. Look for a pattern in the table. Use it to write an algebraic expression for the cost of s T-shirts.

T-shirt Costs			
Number of T-shirts	1	4	9
Cost	$8	$32	$72

An expression for the cost of s T-shirts is ☐.

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25. **Think About the Process** How can you use parentheses to change the expression $27 \times 9y + 3$ so that it is a product of two terms?

Choose the correct answer below.

- A. Place the parentheses around $27 \times y$.
- B. Place the parentheses around $9y + 3$.
- C. Place the parentheses around $9y$.
- D. Place the parentheses around $27 \times 9y$.

26. What is an algebraic expression for "29 more than q"?

An algebraic expression is ☐.

27. Classify this expression as either a numerical expression or an algebraic expression.

$39 \div 13 + 6$

The expression $39 \div 13 + 6$ is a(n) algebraic / numerical expression.

28. Write a word phrase for the numerical expression $300 \div 60 \times 5$.

Which word phrase matches the expression?

- 60 divided by 300 multiplied by 5
- The quotient of 300 and 60 multiplied by 5
- The difference of 300 and 60 plus 5
- The product of 300 and 60 divided by 5

29. **Writing** Use the Commutative Property of Addition to write an expression equivalent to $n + 8$. Use pencil and paper. Explain how you could use the Commutative Property to help you work with the expression $12 + n + 8$.

$n + 8 =$ ☐

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30. Your friend does 25 push-ups and 55 sit-ups each night. For n nights, the expression $n(25+55)$ represents the total number of push-ups and sit-ups. Use the Distributive Property to write an equivalent expression that also shows the total number of push-ups and sit-ups for n nights.

Which expression is equivalent to $n(25+55)$ by the Distributive Property?

- ◯ A. $25+55n$
- ◯ B. $25n+55n$
- ◯ C. $n(55+25)$
- ◯ D. $25n+55$