



REFRESH KID

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MATH ASSESSMENT

Topic 1: Unit Rates with Fractions

- Shonda used $\frac{1}{6}$ of an oz. of milk to make $\frac{1}{12}$ of a bowl of pudding. How many ounces of milk would it take to make a full bowl?
- Ethan used $\frac{2}{5}$ of a cup of sugar to make $\frac{1}{10}$ of a cake. How many cups of sugar would he need to make a whole cake?
- Maria used $\frac{3}{8}$ of a yard of ribbon to decorate $\frac{1}{4}$ of a gift box. How many yards of ribbon would she need to decorate the entire box?
- Liam used $\frac{1}{3}$ of a gallon of paint to cover $\frac{1}{6}$ of a wall. How many gallons would he need to paint the whole wall?
- Sophia used $\frac{1}{7}$ of a pound of clay to model $\frac{1}{14}$ of a sculpture. How many pounds of clay are needed for the entire sculpture?
- Noah used $\frac{1}{10}$ of a litre of juice to fill $\frac{1}{5}$ of a bottle. How many litres of juice would it take to fill the whole bottle?

Topic 2: Proportions

- A smoothie recipe uses $\frac{3}{4}$ cup of yogurt for every $\frac{1}{2}$ cup of strawberries. If a large batch requires 3 cups of strawberries, how much yogurt is needed?



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- A car can travel 238.5 miles on 7.5 gallons of fuel. At this same rate, how many gallons are needed to travel 420 miles?
- A child weighing 60 pounds is prescribed $\frac{1}{2}$ teaspoon of medicine. The dosage is proportional to weight. How much should a child weighing 84 pounds receive?
- A solution contains $\frac{2}{5}$ grams of salt per 100 mL of water. How many grams of salt are needed for 350 mL?

Topic 3: Constant of proportionality

- Find the constant of proportionality from the table:

x	2	4	6	8
y	6	12	18	24

Answer: _____

- Does this table represent a proportional relationship? If yes, find the constant of proportionality:

Hours	1	2	3	4
Miles	50	100	150	200



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Answer: _____

- A bakery sells cupcakes. Use the table to find the constant of proportionality:

Number of Cupcakes	3	6	9	12
Total Cost (\$)	9	18	27	36

Answer: _____

- Find the constant of proportionality

x	5	10	15	20
y	15	30	45	60

Answer: _____

Topic 4: Percentages

- Emma buys a shirt that costs \$40. It's on sale for 25% off. How much will she save?
- Liam's restaurant bill is \$68. He wants to leave a 20% tip. How much should he leave for the tip?



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- A car salesperson earns a 6.5% commission on every car sold. If he sells a car for \$32,000, how much commission does he earn?
- A savings account earns 3.2% interest annually. If you deposit \$4,500, how much interest will it earn in one year?

Topic 5: Absolute Values

- What is the absolute value of 7?
- What is the absolute value of -9?
- Find $|0|$.
- Calculate $|-15|$.
- What is the value of $|24|$?
- Find the absolute value of -32.
- Which is greater: $|-8|$ or $|6|$?
- Which is smaller: $|12|$ or $|-15|$?
- Find $|4| + |-3|$.
- Calculate $|6| - |2|$.
- What is $|-7| \times |2|$?
- Find $|10| \div |2|$.
- Which is equal to $|-9|$? a) -9 b) 0 c) 9 d) $-|-9|$



Topic 6: Integers

- $41 + (-16) = ?$
- $(-28) + (-12) = ?$
- $37 + (-37) = ?$
- $(-45) + 27 = ?$
- $54 + (-39) = ?$
- Sarah had \$35 in her bank account. She spent \$42 on groceries, creating a negative balance. What is her new account balance?
- The temperature in Chicago was -8°C in the morning. By noon, it had increased by 13°C . What was the temperature at noon?
- John owes his friend \$27. He pays back \$15. How much does he still owe his friend?
- A diver starts at 5 meters above sea level and descends 12 meters. What is the diver's new position relative to sea level?
- $19 - (-5) = ?$
- $(-27) - (-12) = ?$
- $33 - 45 = ?$
- $(-30) - 18 = ?$
- $25 - (-16) = ?$



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- David had \$42 in his wallet. He spent \$28 on groceries. How much money does he have left?
- The temperature was 13°C . It dropped by 20°C overnight. What is the new temperature?
- Maria owed \$35 to her friend. She paid back \$15. How much does she still owe?
- A submarine was at 25 meters below sea level. It descended another 18 meters. What is its new position relative to sea level?
- $(-1) \times (-31) = ?$
- $20 \times 5 = ?$
- $(-6) \times 10 = ?$
- $(-10) \times (-8) = ?$
- $2 \times (-2) \times 3 = ?$

TOPIC 7: RATIONAL NUMBERS OPERATIONS

Find the sum or difference. Then simplify if possible.

1. $\frac{5}{6} + \frac{7}{10}$

2. $\frac{1}{4} - \frac{6}{15}$

3. $-\frac{3c}{7} + \frac{c}{2}$

4. $\frac{x}{5y} - \frac{5x}{7y}$

5. A recipe for punch calls for $1\frac{1}{2}$ quarts of orange juice, $1\frac{1}{4}$ quarts of ginger ale, and $\frac{3}{4}$ quart of cranberry juice. How many quarts will the recipe make?



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Find the quotient.

6. $\frac{5}{6} \div \frac{1}{12}$

7. $-\frac{5}{7} \div \frac{2}{9}$

8. $\frac{10}{17} \div \left(-\frac{7}{8}\right)$

9. $\frac{21}{25} \div \left(-\frac{5}{11}\right)$

10. $\frac{1}{3} \div 6$

11. $\frac{7}{9} \div (-14)$

24. A box of cereal contains $25\frac{1}{2}$ ounces of cereal. The recommended serving size is $2\frac{1}{10}$ ounces. How many servings are there in the box?

Find the product.

17. $\frac{1}{6} \cdot \frac{4}{9} \cdot \left(-\frac{11}{12}\right)$

18. $-\frac{12}{13} \cdot 2\frac{6}{7} \cdot 4\frac{3}{4}$

19. $-6\frac{19}{21} \cdot \left(-3\frac{8}{15}\right) \cdot \frac{5}{18}$

In Exercises 20–22, evaluate the expression.

20. $-\frac{7}{9} + 3\frac{1}{5} \cdot \frac{17}{20}$

21. $\frac{7}{4} \cdot \left(\frac{5}{12} - \frac{11}{30}\right)$

22. $7 - \left(\frac{1}{8} + \frac{1}{6}\right)^2$