Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CFS for top quality work**

* + Initial complex fraction is written
	+ Complex fraction written as a **division expression**
	+ Unit rate calculated using rules for dividing fractions

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNIT 5 LESSON 10

**AIM**: SWBAT calculate unit rates with fractions

**THINK ABOUT IT!**

Emmy and Roscoe both run every day. Yesterday, Emmy ran 8 miles in two hours. Roscoe ran 6 ½ miles in 1 ½ hours. Determine who ran faster by comparing their unit rates.

Test the Conjecture #1) A bathtub is being filled up and after 2 ¾ minutes there is 8 ½ gallons in it. How many gallons are flowing each minute?

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Test the Conjecture #2) Winston found $3.75 for in change on the beach with his metal detector over the course of 3 1/3 hours. Write a unit rate that describes this situation

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Conjecture

|  |
| --- |
| Unit rates with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can be calculated by dividing the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |

**PARTNER PRACTICE**

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| *Bachelor Level* |

1. Gabby mixes ½ tablespoon of paprika for every ¾ teaspoon of salt. Calculate a unit rate to represent the amount of paprika per 1 tsp of salt.

**CFS for top quality work**

* + Initial complex fraction is written
	+ Complex fraction written as a **division expression**
	+ Unit rate calculated using rules for dividing fractions

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1. Which of the following expressions could be used to determine the unit rate in miles per hour for 3 ½ miles in ¼ hour? Select all that apply.

**CFS for top quality work**

* + Initial complex fraction is written
	+ Complex fraction written as a **division expression**
	+ Unit rate calculated using rules for dividing fractions
	1. $3\frac{1}{2}÷4$
	2. $\frac{\frac{7}{2}}{\frac{1}{4}}$
	3. $\frac{\frac{1}{4}}{3\frac{1}{2}}$
	4. $\frac{7}{2}×4$
	5. $\frac{1}{4}×\frac{2}{7}$

|  |
| --- |
| *Master Level* |

1. Mr. Roble was attempting to make blueberry muffins this weekend…The recipe called for $\frac{3}{4} $cup of sugar and $\frac{1}{8}$ cup of butter. While he was busy watching the NBA playoffs, he accidently poured a whole cup of butter into the mixing bowl! For the recipe to come out proportionally correct, how many cups of sugar would he need to put in the mixing bowl?

**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

1. Part A: While preparing for a marathon, a runner determined that he could run $\frac{1}{6} $of a mile in $\frac{4}{5}$ of a minute. If the runner ran for 1 mile how many minutes would it take?

**CFS for top quality work**

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	+ Unit rate calculated using rules for dividing fractions

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Part B: If the runner ran for 1 minute, how many miles would he have run?

**CFS for top quality work**

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Part C: If the runner ran for 8 miles at the same rate, how many minutes would it take?

**CFS for top quality work**

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	+ Unit rate calculated using rules for dividing fractions

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| *Master Level* |

1. A recipe for a special sauce calls for $\frac{4}{5}$ of a cup of ginger and 1$\frac{1}{4}$ cups of pineapple juice. Read each statement below and decide whether it is “true” or “false.”

|  |  |  |
| --- | --- | --- |
| Statement | True | False |
| There are $1\frac{9}{16}$ cups of ginger for every 1 cup of pineapple juice |  |  |
| There are $\frac{16}{25}$ cups of ginger for every 1 cup of pineapple juice |  |  |
| If we want to know how many cups of ginger needed if we have 3 cups of pineapple juice, we would set up our ratio like this: $\frac{1\frac{1}{4} pineapple}{\frac{4}{5} ginger}$ |  |  |
| If we have 3 cups of pineapple juice, we need about 2 cups of ginger |  |  |

1. Two different paint companies are trying to determine whose mixture is redder. Company 1 says that for every $\frac{1}{5}$ cup of red, they use $\frac{2}{3}$ cup of blue. Company 2 says that for every $\frac{1}{4}$ cup of red, they use $\frac{2}{5}$ cup of blue paint. Which company has the redder mixture? Explain your reasoning.

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| *PhD Level* |

1. A cheetah was racing a gazelle and a lion. For every $\frac{5}{2}$ of a mile the cheetah ran, the gazelle ran $\frac{1}{6}$ of a mile and the lion ran $\frac{3}{4}$ of a mile. If the cheetah ran 20 miles miles, how many miles did the gazelle and lion run?

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXIT TICKET**

|  |  |  |  |
| --- | --- | --- | --- |
| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. Martin can run 3 ¾ miles in 2/3 of an hour. Write a unit rate to describe the situation and explain the context.

**CFS for top quality work**

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1. 3 1/3 lb. of turkey costs $10.50. What is the price per pound of turkey?

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Bonus: How can you use this to determine the cost of 5 ½ pound of turkey?

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