**Lesson 5.3a Writing Proportions**

EQ: How do we write proportions so that we can solve them?

**REMEMBER: Proportions** are written as **two equal ratios**.

**Writing a Proportion by Creating a Table**



Use the **RATIOS** given to you in each **COLUMN** to write the proportion.



**EX1:** A chef increases the amounts of ingredients in a recipe to make a **proportional recipe**. The new recipe has **6 cups of black beans**. Write a proportion that gives the number of **‘*x’*****tomatoes** in the new recipe.

**STEP 1:**

**STEP 2:** Write the proportion using the ratios from the table.

**ON YOUR OWN PRACTICE:**

1. Write a proportion that gives the amountof **‘s’** **salsa** in the new recipe.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Original Recipe | New Recipe |  =  |
| Black Beans | 1.5 cups | 6 cups |
| salsa | 0.5 cups | S |

1. Write a proportion that gives the amount of **‘w’** **water** in the new recipe.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Original Recipe | New Recipe |  =  |
| Black beans | 1.5 cups | 6 cups |
| water | 2 cups | w |

**Writing Proportions from Word and Scale Problems**

* All proportions contain **4 quantities**, **one in the numerator** and **one in the denominator** **for each of the two ratios.**
* When writing a proportion to be solved, we are given 3 of the 4 pieces.

**Step 1**- read the problem carefully.

**Step 2-** identify the 3 given quantities and their units.

**Step 3-** Write the 1st ratio using the **original** **information** given.

**Step 4-** Write the 2nd ratio using the **new information** and the **VARIABLE** for the UNKNOWN value. Make sure the **numerators have the same units** and **denominators have the same units**.

**Step 5-** Rewrite the proportion removing the units.

**EX1:** You bought a 5 pound turkey for $14.45. How much would a 7 pound turkey cost?

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**EX2:** 5 inches on a map represents 75 miles. How many inches would be between two cities that are 5,000 miles apart?

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**Writing Proportions to find Similar Figure Measurements**

**- Identify similar sides.**

- **Follow steps 3-5 above,** except the **numerators should have similar sides** and the **denominators should have similar sides.**

**EX1:** Write a proportion to find the missing dimension.



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**Lesson 5.3a Writing Proportions**

EQ: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\*\* Remember\*\* Proportions are written as two equal ratios. \*\***

**Writing a Proportion by Creating a Table:**



Use the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ given to you in each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



**EX1:** A chef increases the amounts of ingredients in a recipe to make a **proportional recipe**. The new recipe has **6 cups of black beans**. Write a proportion that gives the number of **‘*x’*****tomatoes** in the new recipe.

**STEP 1:** Organize the information in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
|  | Original Recipe | New Recipe |
| Black Beans |  |  |
| Tomatoes |  |  |

**STEP 2:** Write the proportion using the ratios from the table.

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**ON YOUR OWN PRACTICE:**

1. Write a proportion that gives the amountof **‘s’** **salsa** in the new recipe.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Original Recipe | New Recipe |  =  |
| Black Beans |  |  |
|  |  |  |

1. Write a proportion that gives the amount of **‘w’** **water** in the new recipe.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  =  |
|  |  |  |
|  |  |  |

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