

# NTI DAY #2

(weather-closed school day)

# PACKET

# TWO

(Math)

## General Directions:

Due to weather, Harrison County Schools are closed. In an effort to utilize this day on the school calendar, your child is assigned and should work on this “packet” of school work today. It will count as a grade for this subject. The work attached is specific to the subject listed above. Please contact your child’s teacher of this subject at 234-7123 in the event you/your student have questions on this packet. Staff and teachers reported to HCMS today and are available should you have questions.

While this is DUE no later than the last school day before the 3<sup>rd</sup> nine-weeks ends, we **strongly encourage** students to turn it in to their teacher as soon as it’s complete (soon after the NTI day) to avoid it being lost, eaten by the family pet, burned to keep warm, etc

**NTI packet:**

Choose **one** of the following Menu options to complete.

- 1) Play a Board Game or Video Game with a family member and explain how Math is used in the game.
- 2) Measure the snow outside in inches, record the temperature, and watch the weather forecast. Email me a picture of your measurement and predict if we will have school tomorrow based on the snowfall, temperature, and weather forecast.
- 3) Choose a Composite number between 20 and 150. List all of its factors and the first ten multiples.
- 4) 2,3,5, 7, and 11 are the first five prime numbers. List the prime numbers from 2 to 100.
- 5) Look around your house for rectangles. Take a picture of at least 3 rectangles that you see. Email me your pictures.
- 6) Look at the weekly shopper and find an example of a unit rate problem and solve it. Here is an example: The cost is \$9.94 for 60 pieces. How much does each piece of candy cost.  $9.94 \div 60 = 0.165$  or  $0.17$  approximately 17 cents for each piece



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**Lesson 3****Understanding Ratios**

A **ratio** compares 2 numbers. When written out, several phrases can show how the ratio should be written.

4 to 2

4:2

 $\frac{4}{2}$  or  $\frac{2}{1}$ 

6 out of 8

6:8

 $\frac{6}{8}$  or  $\frac{3}{4}$ 

Express each ratio as a fraction in simplest form.

**a****b**

- |   |                                     |
|---|-------------------------------------|
| 1. 15 feet out of 36 feet _____         | 5 pounds to 35 pounds _____         |
| 2. 48 rainy days out of 60 days _____   | 28 snow days out of 49 days _____   |
| 3. 10 pints to 20 pints _____           | 40 cups to 55 cups _____            |
| 4. 10 miles out of 12 miles _____       | 28 red bikes out of 40 bikes _____  |
| 5. 18 beetles out of 72 insects _____   | 63 gallons to 84 gallons _____      |
| 6. 49 dimes out of 77 coins _____       | 12 cakes out of 36 cakes _____      |
| 7. 15 students out of 30 students _____ | 3 floors out of 18 floors _____     |
| 8. 36 meters out of 100 meters _____    | 14 hats out of 20 accessories _____ |
| 9. 80 scores out of 90 scores _____     | 2 sports out of 19 sports _____     |
| 10. 42 cars out of 124 cars _____       | 7 messages out of 84 messages _____ |

**Lesson 3.3****Solving Ratio Problems**

Tables can be used to help find missing values in real-life ratio problems.

A car can drive 60 miles on two gallons of gas. Create a table to find out how many miles the car can travel on 10 gallons of gas.

<b>Gas</b>	2 gallons	4 gallons	6 gallons	8 gallons	10 gallons
<b>Miles</b>	60 miles	120 miles	180 miles	240 miles	300 miles

Complete the tables to solve the ratio problems. Circle your answer in the table.

1. You can buy 4 cans of green beans at the market for \$2.25. How much will it cost to buy 12 cans of beans?

<b>Cans</b>	4 cans	8 cans	12 cans
<b>Cost</b>	\$2.25		

2. An ice-cream factory makes 180 quarts of ice cream in 2 hours. How many quarts could be made in 12 hours?

<b>Ice Cream</b>	180 quarts					
<b>Hours</b>	2 hours	4 hours	6 hours	8 hours		

3. A jet travels 650 miles in 3 hours. At this rate, how far could the jet fly in 9 hours?

<b>Distance</b>	650 miles		
<b>Hours</b>	3 hours		

4. A bakery can make 640 bagels in 4 hours. How many can they bake in 16 hours?

<b>Bagels</b>	640 bagels			
<b>Hours</b>	4 hours			



## Lesson Practice

Choose the correct answer.

1. Which ratio is equivalent to  $\frac{3}{10}$ ?

- A.  $\frac{9}{10}$
- B.  $\frac{9}{13}$
- C.  $\frac{9}{20}$
- D.  $\frac{9}{30}$

2. Which ratio is **not** equivalent to  $\frac{5}{3}$ ?

- A.  $\frac{35}{21}$
- B.  $\frac{25}{15}$
- C.  $\frac{18}{12}$
- D.  $\frac{10}{6}$

3. Which pair of ratios are equivalent?

- A.  $\frac{6}{9}$  and  $\frac{12}{16}$
- B.  $\frac{9}{15}$  and  $\frac{18}{30}$
- C.  $\frac{10}{18}$  and  $\frac{16}{27}$
- D.  $\frac{12}{15}$  and  $\frac{15}{20}$

4. A television station shows 3 commercials every 12 minutes. At that rate, how many commercials will the station show in 60 minutes?

- A. 30
- B. 15
- C. 12
- D. 8

5. The table below shows the number of cups of sugar and of flour needed to make some cookies. If Alex uses 5 cups of sugar to make cookies, how many cups of flour does he need?

Cookie Ingredients

Cups of Flour	6	9	12	?
Cups of Sugar	2	3	4	5

- A. 20 cups
- B. 15 cups
- C. 13 cups
- D. 6 cups

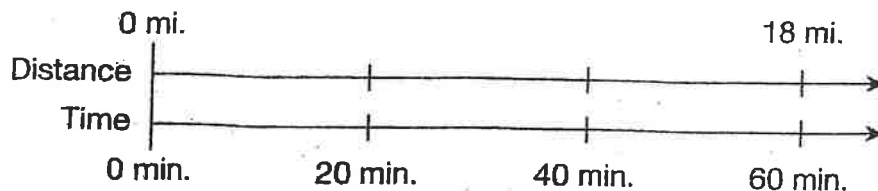
6. The ratio of blue marbles to red marbles in a bag is 11:9. If there are 99 blue marbles in the bag, how many red marbles are there?

- A. 18
- B. 35
- C. 81
- D. 121

7. The ratio of boys to girls in a chorus is 5 to 6. Which shows an equivalent ratio?

- A. 10 boys to 12 girls
- B. 15 boys to 19 girls
- C. 20 boys to 25 girls
- D. 24 boys to 28 girls

8. When biking at a constant speed, Abdul can travel 6 miles in 20 minutes. He made the double number line below to help him find how many miles he can bike in different amounts of time. How many miles can he bike in 40 minutes?

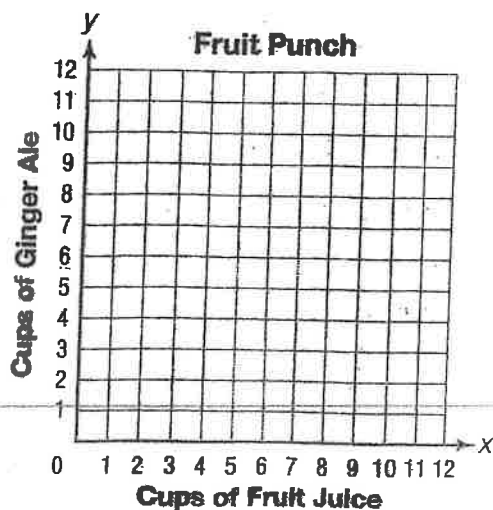


- A. 2 miles  
 B. 12 miles  
 C. 18 miles  
 D. 46 miles
9. The table shows the number of cups of fruit juice and of ginger ale needed to make a fruit punch.

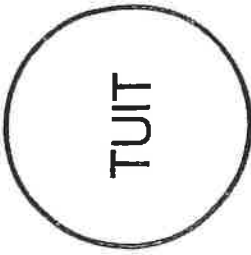
**Fruit Punch**

Cups of Fruit Juice ( $x$ )	2	4	6	8
Cups of Ginger Ale ( $y$ )	3	6	?	12

- A. Do the pairs of values in the table represent equivalent ratios? Show your work or explain how you determined your answer.
- B. Plot the ordered pairs from the table on the coordinate grid below. Then use the graph to determine how many cups of ginger ale must be mixed with 6 cups of fruit juice to make the punch.



# Why Did the Teacher Give One of Her Students a Button Like This One?



Write each answer and then find it in the corresponding set of answers. Print the letter of the exercise in the box above the answer.

Write each decimal as a percent.

- |          |          |          |
|----------|----------|----------|
| (E) 0.33 | (T) 0.65 | (A) 0.91 |
| (U) 0.47 | (E) 0.16 | (H) 0.82 |
| (S) 0.04 | (T) 0.07 | (D) 0.01 |
| (H) 0.2  | (N) 0.9  | (T) 0.5  |

Write each fraction as a percent.

- |                      |                      |                      |                       |
|----------------------|----------------------|----------------------|-----------------------|
| (D) $\frac{17}{100}$ | (L) $\frac{75}{100}$ | (A) $\frac{44}{100}$ | (D) $\frac{23}{100}$  |
| (O) $\frac{8}{100}$  | (E) $\frac{3}{100}$  | (D) $\frac{5}{100}$  | (W) $\frac{100}{100}$ |
| (H) $\frac{6}{10}$   | (S) $\frac{4}{10}$   | (U) $\frac{7}{10}$   | (I) $\frac{1}{10}$    |

7%																					
20%																					
33%																					
36%																					
4%																					
50%																					
47%																					
1%																					
16%																					
90%																					
65%																					
11%																					
82%																					
91%																					
5%																					

Write each percent as a decimal.

- |         |         |         |
|---------|---------|---------|
| (E) 25% | (D) 67% | (G) 39% |
| (H) 98% | (S) 13% | (E) 71% |
| (N) 3%  | (U) 8%  | (H) 2%  |
| (Y) 40% | (W) 90% | (T) 50% |

Write each percent as a fraction in lowest terms.

- |         |         |         |
|---------|---------|---------|
| (U) 23% | (T) 7%  | (O) 81% |
| (D) 10% | (A) 25% | (T) 60% |
| (I) 90% | (O) 35% | (T) 2%  |
| (N) 75% | (R) 5%  | (U) 50% |

0.13																					
0.5																					
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## Lesson 2.3 Dividing Fractions

To divide, multiply by the reciprocal of the divisor.

$$\frac{4}{5} \div \frac{8}{9} = \frac{4}{5} \times \frac{9}{8} = \frac{36}{40} = \frac{9}{10}$$

Divide. Write answers in simplest form.

**a**

1.  $\frac{1}{2} \div \frac{3}{5}$

**b**

$$\frac{3}{8} \div \frac{2}{3}$$

**c**

$$\frac{5}{8} \div \frac{3}{4}$$

**d**

$$\frac{2}{5} \div \frac{3}{8}$$

2.  $\frac{1}{2} \div \frac{7}{8}$

$$\frac{4}{5} \div \frac{3}{4}$$

$$\frac{5}{6} \div \frac{3}{8}$$

$$\frac{2}{3} \div \frac{4}{5}$$

3.  $\frac{7}{8} \div \frac{1}{3}$

$$\frac{7}{9} \div \frac{2}{3}$$

$$\frac{1}{3} \div \frac{2}{3}$$

$$\frac{5}{6} \div \frac{1}{3}$$

4.  $\frac{3}{5} \div \frac{2}{3}$

$$\frac{4}{9} \div \frac{3}{7}$$

$$\frac{1}{2} \div \frac{5}{8}$$

$$\frac{2}{3} \div \frac{7}{9}$$