

NTI DAY #2
(weather-closed school day)

6th grade
Copes,
Brannock

PACKET

6

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 234-7110 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.

NAME: _____

Lesson 3.1 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.

Gas	2 gallons	4 gallons	6 gallons	8 gallons	10 gallons
Miles	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?

Cans	4 cans	8 cans	12 cans
Cost	\$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?

Ice Cream	180 quarts					
Hours	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?

Distance	650 miles		
Hours	3 hours		

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

Bagels	640 bagels			
Hours	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

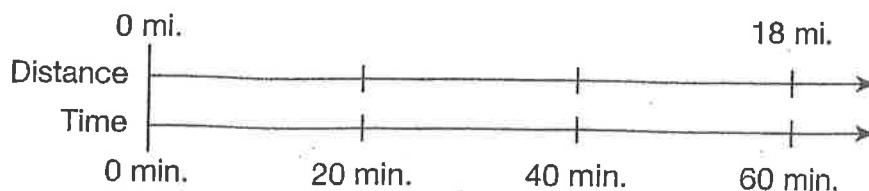
6. The ratio of blue marbles to red marbles in a bag is 11:9. If there are 99 blue marbles in the bag, how many red marbles are there?

- 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?

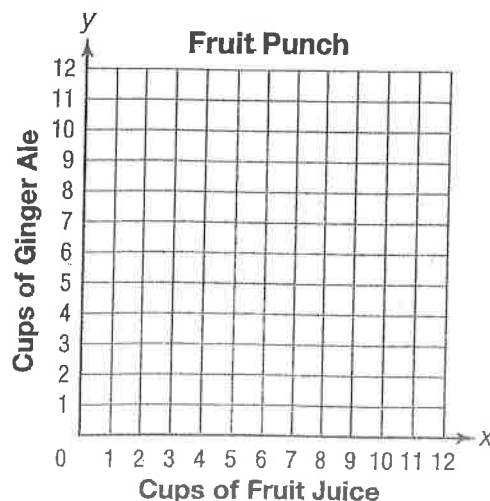


- A. 2 miles
 B. 12 miles
 C. 18 miles
 D. 46 miles
9. The table shows the number of cups of fruit juice and of ginger ale needed to make a fruit punch.

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.



Lesson 3.6 Understanding Percents

The symbol % (percent) means $\frac{1}{100}$ or 0.01 (one hundredth).

$$\begin{aligned} 7\% &= 7 \times \frac{1}{100} \\ &= \frac{7}{1} \times \frac{1}{100} \\ &= \frac{7}{100} \end{aligned}$$

$$\begin{aligned} 6\% &= 6 \times 0.01 \\ &= 0.06 \end{aligned}$$

$$\begin{aligned} 23\% &= 23 \times \frac{1}{100} \\ &= \frac{23}{100} \end{aligned}$$

$$\begin{aligned} 47\% &= 47 \times 0.01 \\ &= 0.47 \end{aligned}$$

Write the fraction and decimal for each percent. Write fractions in simplest form.

	Percent	Fraction	Decimal
1.	2%	_____	_____
2.	8%	_____	_____
3.	27%	_____	_____
4.	13%	_____	_____
5.	68%	_____	_____
6.	72%	_____	_____
7.	56%	_____	_____
8.	11%	_____	_____
9.	3%	_____	_____
10.	22%	_____	_____
11.	17%	_____	_____
12.	83%	_____	_____
13.	97%	_____	_____
14.	43%	_____	_____

Lesson 5.5 Solving 1-Step Equations: Addition & Subtraction**Subtraction Property of Equality**

If you subtract the same number from each side of an equation, the two sides remain equal.

$$x + 12 = 20$$

To undo the addition of 12, subtract 12.

$$x + 12 - 12 = 20 - 12$$

$$x + 0 = 8$$

$$x = 8$$

Addition Property of Equality

If you add the same number to each side of an equation, the two sides remain equal.

$$n - 3 = 15$$

To undo the subtraction of 3, add 3.

$$n - 3 + 3 = 15 + 3$$

$$n - 0 = 18$$

$$n = 18$$

Write the operation that would undo the operation in the equation.

1. $x - 4 = 3$ ^a _____

2. $y + 7 = 25$ _____

$8 = b + 4$ ^b _____

$3 = a - 7$ _____

Solve each equation.

3. $a - 4 = 2$ ^a _____

4. $7 = x - 4$ _____

5. $z - 7 = 5$ _____

6. $x + 7 = 10$ _____

7. $b + 4 = 4$ _____

8. $z - 10 = 20$ _____

$y + 5 = 9$ ^b _____

$b + 7 = 19$ _____

$m - 5 = 5$ _____

$x - 3 = 18$ _____

$b - 8 = 12$ _____

$z + 5 = 20$ _____

$x - 3 = 14$ ^c _____

$y + 5 = 5$ _____

$n + 1 = 1$ _____

$x + 0 = 9$ _____

$n + 8 = 12$ _____

$x - 2 = 8$ _____

Write and solve the equation for each problem below.

9. Kelley went to the movies. She took 20 dollars with her. When she came home, she had 6 dollars. How much money did she spend? _____

10. There are 27 students in Mrs. Yuen's homeroom. Twelve of them have home computers. How many students do not have home computers?

9.

10.