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Lexile: 630L

Ratios

Section: PRACTICE TEST SERIES: PART SIX

YOU ARE LISTENING TO WMTH, THE HOTTEST STATION WITH THE COOLEST HITS! WELL, AT LEAST THIS WEEK WE ARE. TWO WEEKS AGO, WE WERE "ALL NAILS-ON-CHALKBOARD, ALL, THE TIME!" AND THE WEEK BEFORE THAT, WE HAD A GUY WITH A MOUTHFUL OF BANANAS SINGING OPERA, AROUND THE CLOCK. SO TUNE IN QUICK FOR THIS **RATIO** PRACTICE TEST. HURRY, BEFORE WE BECOME "YOUR 24-HOUR THREE-WEEK-OLD-NEWS STATION."

STUDY TIPS

- A **ratio** is a comparison of two quantities, a and b. There are three ways to write a **ratio**: a to b, a:b, and a/b
- A **ratio** can be simplified by dividing both quantities by their greatest common factor [GCF]:

$$8 \div 4 = 2 \quad 12 \div 4 = 3$$

- Two ratios are equal (also called a proportion) if the products are equal when you cross-multiply:

$$a/b = c/d \text{ if } a \cdot d = b \cdot c$$

For problems 1 to 6, fill in the circle of the correct answer.

1. At WMTH, we play the best music 24 hours a day! Uh, except right now, because we're playing a commercial. Each hour, we play 50 minutes of music and 10 minutes of commercials. Which of the following does not represent the **ratio** of minutes of music to minutes of commercials?

A 50 to 10

B 5:1

C 50/10

D 10/50

2. I just played the new Rustin Timberfake hit, "I've Got Lots of Friends (Who Like Me Because I'm Rich)." I love that line that goes, "Six friends on Friday and not one foe; 10 friends on Saturday who want my dough." What's the **ratio** of friends on Friday to friends on Saturday?

A 6:10

B 10:6

C 2 to 6

D 6 to 2

3. "Tired Paperboy," the last hit that cool group, 264 Doors Down, got 4 million requests on our station. Their new song, "Confused Mailman," has already received 6 million requests! What's the **ratio** of requests for their last hit to requests for their new hit?

A 6 to 4

B 10 to 4

C 2/3

D 3/2

Use this table for the following questions:

Legend for Chart:

B - 3 P.M. to 6 P.M.
C - 6 P.M. to 9 P.M.
D - 9 P.M. to 12 A.M.

	A	B	C	D
PRE-TEEN GIRLS	36	15	4	
PRE-TEEN BOYS	30	20	6	
TEEN GIRLS	18	3	32	
TEEN BOYS	11	28	42	
OTHER	5	7	16	

4. We like to know who's listening to the station. (For example, if our entire audience were kitties, we'd play more songs about milk and hairballs.) So we took a survey, and the results are in the table above. It shows, out of every 100 listeners, how many are in each group. What is the **ratio** of pre-teen boys listening between 3 P.M. and 6 P.M. to pre-teen boys listening between 6 P.M. and 9 P.M.?

A 20 to 30

B 3 to 2

C 30 to 6

D 2 to 3

5. We have more young listeners between 6 and 9 P.M. than our rival station, WHLE! (Of course, they only play whale noises during that period.) What is our station's **ratio** of all girls to all boys at this time? Ignore the "other" group.

A 35:58

B 15:16

C 48:45

D 36:48

6. Girls keep calling the request line at night for Anvil LaMean's new hit "Tater Boi" (about a boyfriend who loves potatoes). What's the **ratio** of teen girls to pre-teen girls from 9 P.M. to 12 A.M.?

A 1 to 2

B 2 to 1

C 1 to 8

D 8 to 1

For problems 7 to 10, write in the correct answer. (Use any of the three ways to write a *ratio*.) Continue to use the data in the table.

- 7. The group called "other" on the table aren't aliens. (Or kitties. Or alien kitties.) It just means they're out of high school. What is the **ratio** of listeners in this category during the 6 P.M. to 9 P.M. time slot to the 9 P.M. to 12 A.M. time slot? ()
- 8. Right after school, from 3 P.M. to 6 P.M., the pre-teens are the biggest group of listeners. (Well, maybe more alien kitties listen, but they didn't return the survey.) Find the **ratio** of all pre-teens to all the remaining listeners during this time. Is the **ratio** close to 2:1? Explain: ()

- 9. WHILE has the same number of listeners at all times. (One guy, whose radio dial is stuck.) On our station, the audience changes. Is the **ratio** of pre-teen girls to pre-teen boys the same from 6 P.M. to 9 P.M. as it is from 9 P.M. to 12 A.M.? Explain: ()

BREAK THE MISTAKE!

10. For our rockin'-**ratio** contest, we read the results in the teen girl and "other" categories over the air. However, our 14th caller didn't win tickets to the Poodle of Mmmud concert. He said that the **ratio** of $5/7 = 30/32$ because the numerators and denominators differ by 2.

Explain why he is wrong: ()