

Student: _____
Date: _____
Time: _____

Instructor: Pearson School
Course: digits - grade 6
Book: digits - grade 6

Assignment: Topic 10 Test

1. There are 7 boys and 4 girls in the school robotics club. Write the ratio of the number of boys to the number of girls.

The ratio of the number of boys to the number of girls is : .

2. Last month, Carmen paid a gas and electric utility bill of \$55. The electricity part of the bill was \$25. Write the ratio of the payment for gas to the payment for electricity.

What is the ratio of the payment for gas to the payment for electricity?

- ☐ A. 30:55
☐ B. 25:30
☐ C. 30:25
☐ D. 25:55

3. There are 15 boys and 16 girls in the school jazz band. Find the ratio of the number of boys in the band to the total number of students in the band.

The ratio of the number of boys to the total number of students in the band is : .

4. Use the multiplication table. Find three ratios in the list below that are equivalent to 24:28. Which ratio is not equivalent to 24:28?

30:35, 36:42, 42:49, 48:64

| × | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|----|----|----|----|----|----|----|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 |

Choose the correct answer below.

- ☐ A. 42:49
☐ B. 30:35
☐ C. 36:42
☐ D. 48:64

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5. Find the equivalent ratio with lower terms.

a. $20:25 = 12 : ?$

b. $12:24 = ? : 12$

| × | 3 | 4 | 5 | 6 | 7 |
|---|----|---|----|----|---|
| 1 | | | | | |
| 2 | | | | 12 | |
| 3 | | | | | |
| 4 | 12 | | 20 | 24 | |
| 5 | | | 25 | | |
| 6 | | | | | |

a. $20:25 = 12: \square$

b. $12:24 = \square : 12$

6. In Ms. Harrington's sixth grade class, 24 out of 28 students bought their lunch. How many students out of every 7 bought their lunch?

| × | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|----|----|----|----|----|----|----|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 |

Out of every 7 students, \square bought their lunch.

7. The attendant at a parking lot compared the number of hybrid vehicles to the total number of vehicles in the lot over a weekend. The ratios for the three days were equivalent. Complete the table.

| Day | Hybrids | Total |
|------|---------|-------|
| Fri. | 3 | 7 |
| Sat. | | 63 |
| Sun. | 24 | |

| Day | Hybrids | Total |
|------|-----------|-----------|
| Fri. | 3 | 7 |
| Sat. | \square | 63 |
| Sun. | 24 | \square |

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8. A baker uses 21 cups of flour and 27 cups of water for a recipe. The flour-to-water ratio is 21 : 27. How much water does the baker need if he uses only 7 cups of flour?

| Flour | Water |
|---------|---------|
| 21 cups | 27 cups |
| 7 cups | ? cups |



Click the icon to view number lines for these equivalent ratios.

The baker needs cups of water.

Double Number Lines



9. A teacher is writing a quiz. She wants the ratio of the number of easy questions to the total number of questions to be 21 : 24. If the teacher wants fewer than 21 easy questions on the quiz, how many easy questions should she write?

The teacher should write easy questions.

10. Are the ratios $\frac{14}{63}$ and $\frac{20}{30}$ equivalent?

Are the ratios equivalent?

- ☐ No
☐ Yes

11. The table shows the ratio of games lost to games played for the school basketball team. Complete the table by writing the ratio as a fraction and as a decimal.

| Ratio | Fraction | Decimal |
|---------|----------|---------|
| 19 : 20 | | |

Complete the table below.

| Ratio | Fraction | Decimal |
|---------|----------------------|----------------------|
| 19 : 20 | <input type="text"/> | <input type="text"/> |

(Simplify your answers.)

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12. In the workbench drawer, the ratio of hex bolts to all bolts is 0.34. Write the ratio as a fraction in simplest form.

As a fraction, the ratio of hex bolts to all bolts is .

(Type the ratio as a simplified fraction.)

13. In a recent student government election, the ratio of students who voted for the winner to all the students who voted was 0.65. The number of students who voted was 80. How many votes did the winner get?

The winner received votes.

14. The table shows the amounts of some ingredients needed for a waffle recipe. Find the amounts of the ingredients needed to make 3 and 4 batches of waffles.

| Waffle Ingredients | | | |
|---------------------------|---|---|---|
| Batches of Waffles | 1 | 3 | 4 |
| Shortening (tablespoons) | 2 | | |
| Baking powder (teaspoons) | 3 | | |
| Flour (cups) | 8 | | |

Complete the table below.

| Waffle Ingredients | | | |
|---------------------------|---|----------------------|----------------------|
| Batches of Waffles | 1 | 3 | 4 |
| Shortening (tablespoons) | 2 | <input type="text"/> | <input type="text"/> |
| Baking powder (teaspoons) | 3 | <input type="text"/> | <input type="text"/> |
| Flour (cups) | 8 | <input type="text"/> | <input type="text"/> |

15. The ratio of lime juice to soy sauce in a salad dressing is 7 : 6. The total of both ingredients is 39 tablespoons. How many tablespoons of each ingredient are used?

There are tablespoons of lime juice and tablespoons of soy sauce.

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16. **Think About the Process** Ciara has a bag of 50 colored marbles. There are white, blue, and purple marbles. She empties the bag, sorts the marbles, and counts 18 white marbles and 16 blue marbles. She wants to write a ratio of the number of white marbles to the number of purple marbles. How can she find the number of purple marbles without counting them?

How can Ciara find the number of purple marbles?

- ☐ A. Subtract the number of white marbles and blue marbles combined from the total.
- ☐ B. Subtract the number of white marbles from the total.
- ☐ C. Add the number of white marbles and blue marbles.
- ☐ D. Add the number of white marbles and blue marbles combined to the total.

17. **Temperature** The temperature fell 16 degrees Fahrenheit from 43°F to 27°F in 6 hours. How much would the temperature fall over 9 hours if the pattern continued?

| × | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|----|----|----|----|----|----|----|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 |

The temperature would fall degrees Fahrenheit over 9 hours.

18. **Sport** Vonna scored 24 goals at soccer practice. Her ratio of goals to misses was 4 : 3. How many times did she miss?

Vonna missed times.

19. In basketball, Katrina makes 6 out of every 9 free throws. Her coach claims that if she tries 15 free throws, she should make 10 of them. Is the coach's claim correct?

Choose the correct answer below.

- ☐ No
- ☐ Yes