# Unit 1 - TEST
# Ratios and Proportional Relationsips

**Math 8**

## Part 1: Write the ratio of the given objects.

1. ⭐⭐⭐⭐⭐❤️❤️❤️❤️

The ratio of ⭐ to ❤️ is _____.

2. 🟠🟢🟠🟢🟠🟢🟠

The ratio of 🟢 to 🟠 is _____.

3. **aabbababbbaaababababbbaa**

The ratio of **a** to **b** is _____.

## Part 2: Determine the unit rate.

1. 360 words in 10 minutes

2. 960 cupcakes in 4 hours

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3. $19.2 for 8 burgers

**Part 3: Find the unknown value that will make each pair of ratios equivalent.**

1. $4:x = 2:32$

2. $24:32 = 12:x$

3. $x:25 = 60:75$

**Part 4: Arrange the following ratios from least to greatest.**

1.    16:32          27:36          12:48

2.    45:75          9:45          90:225

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**Part 5: Complete the table. Fractions must be in simplest form and decimals rounded off to the nearest hundredths.**

| | Fraction | Percent | Decimal |
|---|---|---|---|
| 1. | $\frac{46}{100}$ | | |
| 2. | | 45% | |
| 3. | | | 0.75 |
| 4. | | 30% | |

**Part 6: Answer the following problems.**

1. In a football club, 55 out of 80 club members are boys.

   a. What percent of the club are boys?

   b. What percent of the club are girls?

   c. Express the percent of boys in fraction.

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d. Express the percent of girls in fraction.

2. Michelle's toy treasure chest is 40 centimeters long and 30 centimeters wide. How many more millimeters is the length of the treasure chest than the width?

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**Answers:**

**Part 1: Write the ratio of the given objects.**

1. ⭐⭐⭐⭐⭐❤️❤️❤️❤️

   The ratio of ⭐ to ❤️ is 5:4.

2. 🟠🟢🟠🟢🟠🟢🟠

   The ratio of 🟢 to 🟠 is 3:4.

3. **aabbababbbaaababababbbbaa**

   The ratio of **a** to **b** is 12:13.

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## Part 2: Determine the unit rate.

1. 360 words in 10 minutes

   36 words per minute

2. 960 cupcakes in 4 hours

   240 cupcakes per hour

3. $19.2 for 8 burgers

   $2.4 per burger

## Part 3: Find the unknown value that will make each pair of ratios equivalent.

1. $4:x = 2:32$

   $x = 64$

2. $24:32 = 12:x$

   $x = 16$

3. $x:25 = 60:75$

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x = 20

## Part 4: Arrange the following ratios from least to greatest.

1.  16:32          27:36          12:48

    12:48, 16:32, 27:36

2.  45:75          9:45          90:225

    9:45, 90:225, 45:75

## Part 5: Complete the table. Fractions must be in simplest form and decimals rounded off to the nearest hundredths.

|   | Fraction | Percent | Decimal |
|---|---|---|---|
| 1. | $\dfrac{46}{100}$ | 46% | 0.46 |
| 2. | $\dfrac{9}{20}$ | 45% | 0.45 |
| 3. | $\dfrac{3}{4}$ | 75% | 0.75 |

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| | | |
|---|---|---|
| 4. | $\dfrac{3}{10}$ | 30% | 0.30 |

## Part 6: Answer the following problems.

1. In a football club, 55 out of 80 club members are boys.

   a. What percent of the club are boys?

   Solution: 69%

   b. What percent of the club are girls?

   Solution: 31%

   c. Express the percent of boys in fraction.

   Solution: 11/16

   d. Express the percent of girls in fraction.

   Solution: 5/16

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2. Michelle's toy treasure chest is 40 centimeters long and 30 centimeters wide. How many more millimeters is the length of the treasure chest than the width?

Solution: 40 centimeters = 400 millimeters

30 centimeters = 300 millimeters

400 mm – 300 mm = 100mm more is the length of the treasure chest than the width.