

Copilot prompt

- Create a powerpoint presentation explaining fractions. Include percents, mixed fractions, improper fractions. Include examples of comparisons, addition, subtraction, multiplication, and division. Include at least 2 application problems as well.

Slide 1: Title Slide

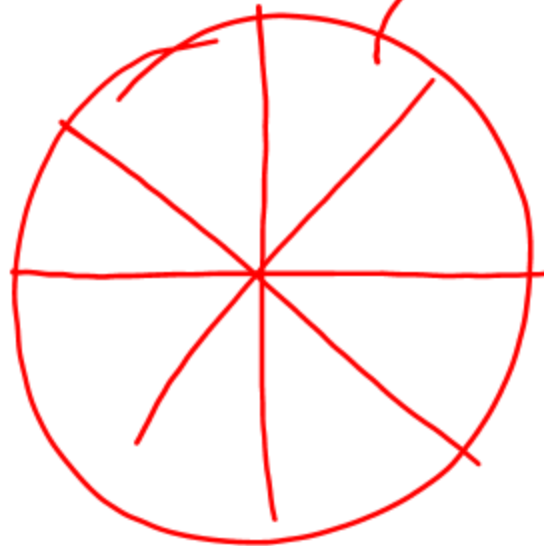
- **Title:** Understanding Fractions
Subtitle: A comprehensive guide to fractions, percents, mixed numbers, and more

Slide 2: What Are Fractions?

- **Content:**

- Definition of a fraction
- Key terms: numerator and denominator
- Visual example (e.g., a pizza sliced into parts)

divide
→

$$\frac{\text{numerator}}{\text{denominator}}$$


$$\frac{1}{8}$$

Slide 3: Percents and Fractions

- **Content:**

- Definition of percents (fractions out of 100)
- Examples of converting fractions to percents and vice versa
- Quick example: $\frac{3}{4} = 75\%$

$$\begin{array}{r} 25 \\ \hline 25 \end{array} \times \frac{3}{4} = \frac{75}{100}$$

Slide 4: Mixed Fractions and Improper Fractions

- **Content:**

- Definition of mixed fractions and improper fractions
- How to convert between the two

- Examples:

- Mixed: $2\frac{1}{3}$

- Improper: $\frac{7}{3}$

Handwritten red annotations illustrating the conversion between mixed and improper fractions:

- Top left: $2\frac{1}{3}$
- Top right: $\frac{3 \times 2 + 1}{3} = \frac{7}{3}$
- Bottom left: A long division problem $3 \overline{)7}$ with a quotient of 2 and a remainder of 1. The remainder 1 is written below the division line.
- Bottom right: $2\frac{1}{3}$
- Arrows: A curved arrow points from the quotient 2 in the division to the whole number 2 in the mixed fraction. Another curved arrow points from the remainder 1 in the division to the numerator 1 in the mixed fraction.

Slide 5: Comparing Fractions

- **Content:**

- How to compare fractions (common denominators or cross-multiplication)

- Example: Compare $\frac{2}{5} \square = > \frac{3}{7}$

$$\frac{7 \times 2}{7 \times 5} = \frac{14}{35}$$

$$\frac{3 \times 5}{7 \times 5} = \frac{15}{35}$$

$$\frac{14}{7 \times 5} < \frac{15}{7 \times 5}$$

Slide 6: Adding Fractions

- **Content:**

- Steps for addition:

- *Find a common denominator*
 - *Add numerators*
 - *Simplify the result*

- Example: $\frac{1}{4} + \frac{3}{8}$

$$\frac{2}{2} \times \frac{1}{4} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{2+3}{8} = \frac{5}{8}$$

Slide 7: Subtracting Fractions

- **Content:**

- Steps for subtraction (similar to addition)

- Example: $\frac{5}{6} - \frac{1}{2}$

$$\frac{5}{6} - \frac{1 \times 3}{2 \times 3} = \frac{5}{6} - \frac{3}{6} = \frac{5-3}{6} = \frac{2}{6} = \frac{1}{3}$$

Slide 8: Multiplying Fractions

- **Content:**

- Multiplication rule: Multiply numerators and denominators
- Simplify the fraction
- Example: $\frac{2}{3} \times \frac{4}{5}$

$$\frac{2}{3} \times \frac{4}{5} = \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$$

Slide 9: Dividing Fractions

- **Content:**

- Division rule: Multiply by the reciprocal

- Example: $\frac{3}{4} \div \frac{2}{5} = \frac{3}{4} \times \frac{5}{2} = \frac{15}{8}$

- $\frac{\frac{3}{4}}{\frac{2}{5}} \times \frac{5}{2} = \frac{3 \times 5}{4 \times 2} = \frac{15}{8}$
 $\frac{2 \times 5}{5 \times 2} = 1$

$$\frac{2}{5} \text{ reciprocal} = \frac{5}{2}$$

$$\begin{array}{r} 1 \\ 8 \overline{) 15} \\ \underline{8} \\ 7 \end{array}$$
$$\frac{7}{8}$$

Slide 10: Application Problem #1

- **Problem:** Sarah has $\frac{2}{3}$ of a cake left. She shares $\frac{1}{4}$ of it with her friend.
How much cake does Sarah have now?

Solution: Step-by-step explanation with visual aid



$$\frac{2}{3} \times \frac{3}{4} = \frac{2}{4} \times \frac{3}{3} = \frac{2}{4} = \frac{1}{2}$$

$$1 - \frac{1}{4} = \frac{4}{4} - \frac{1}{4} = \frac{4-1}{4} = \frac{3}{4}$$

Slide 11: Application Problem #2

- **Problem:** A recipe calls for $1\frac{1}{2}$ cups of sugar, but you only want to make half the recipe. How much sugar do you need?
Solution: Step-by-step explanation with visual aid

$$1\frac{1}{2} = \frac{2 \times 1 + 1}{2} = \frac{3}{2} \text{ cup}$$

$$\frac{3}{2} \times \frac{1}{2} = \frac{3 \times 1}{2 \times 2} = \frac{3}{4} \text{ cup}$$

Slide 12: Conclusion

- **Content:**
 - Recap key points
 - Importance of fractions in daily life
 - Encourage practice with more problems

Examples

- Which is bigger?

1. $\frac{3}{4}$ or $\frac{5}{8}$

2. $\frac{3}{4}$ or 75%

3. $\frac{3}{4}$ or $\frac{5}{8}$

Examples

- Which is bigger?

4. $\frac{12}{32}$ or $\frac{5}{16}$

5. $\frac{35}{7}$ or $\frac{45}{9}$

6. 67.5% or $\frac{5}{7}$

Examples

- Compute

$$7. \frac{3}{4} + \frac{5}{8} =$$

$$8. \frac{3}{23} + \frac{5}{46} =$$

$$9. \frac{3}{2} - \frac{7}{8} =$$

$$10. \frac{4}{5} - \frac{5}{7} =$$

Examples

- Compute

$$11. \quad \frac{73}{100} - \frac{13}{25} =$$

$$12. \quad \frac{3}{4} \times \frac{5}{8} =$$

$$13. \quad \frac{5}{11} \times \frac{5}{8} =$$

$$14. \quad \frac{\frac{3}{4}}{\frac{5}{8}} =$$

Examples

- Compute

$$15. \quad \frac{4}{9} + \frac{1}{6} =$$

$$16. \quad \frac{12}{77} + \frac{5}{33} =$$

$$17. \quad \frac{1}{4} - \frac{3}{16} =$$

Examples

- Compute

18. 68% of \$38.50

$$\rightarrow 0.68 \times \$38.50 = \$26.18$$

multiply

subtract

19. 35% off \$120.00 =

$$100\% - 35\% = 65\%$$

$$0.65 \times \$120 = \$78.00$$

Examples

- Compute

$$20. \quad \frac{13}{16} \times \frac{5}{2} =$$

$$21. \quad \frac{15}{16} \times \frac{3}{5} =$$

$$22. \quad \frac{\frac{4}{5}}{\frac{7}{16}} =$$