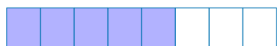
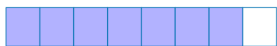


Warmup: Answer the warmup questions **before** watching the video solutions.

1. What part of the rectangle is shaded?



2. What part of the rectangle is shaded?



Which fractions represents the greater amount shaded? _____

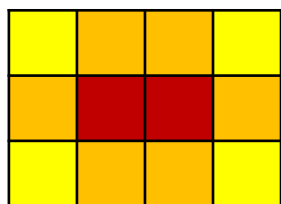
How can you determine which fraction is greater without a picture?

When the denominators are equal _____ represents the greater number.

3. What are the proper terms for the parts of a fraction?

4. Write $\frac{110}{44}$ in simplest form.

I. Using Graphics to Add and Subtract Fractions



The rectangle is separated into 12 equivalent sections.

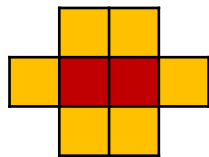
— is yellow — is orange

— is red

How much of the rectangle is yellow or orange?

How much of the rectangle is red or orange?

If the yellow squares are cut out of the rectangle, then how much of the rectangle remains?



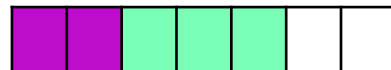
Color 2 of the stars green. Color 1 of the stars yellow.



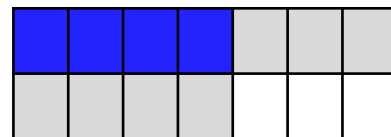
How many fifths of the stars are colored? $\frac{5}{5}$

How did you determine how many fifths of the stars are colored? _____

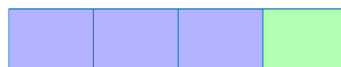
Calculate $\frac{2}{7} + \frac{3}{7} =$ —



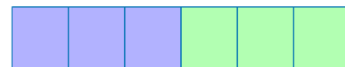
Calculate $\frac{11}{14} - \frac{7}{14} =$ —



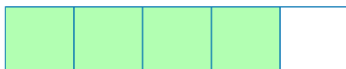
5. Calculate $\frac{3}{4} + \frac{1}{4} =$ —



6. Calculate $\frac{3}{6} + \frac{3}{6} =$ —



7. Calculate $\frac{0}{5} + \frac{4}{5} =$ —



8. Calculate $\frac{3}{4} - \frac{1}{4} =$ —



9. Calculate $\frac{3}{5} - \frac{2}{5} =$ —



II. Addition and Subtraction of Fractions

Addition of Fractions: To add fractions with Common (or the same) denominators:

_____ the denominator

$$\frac{5}{13} + \frac{7}{13} = \frac{5+7}{13} = \frac{12}{13}$$

Subtraction of Fractions: To subtract fractions with Common (or the same) denominators:

_____ the denominator

$$\frac{20}{49} - \frac{5}{49} = \frac{20-5}{49} = \frac{15}{49}$$

$$\frac{12}{15} + \frac{10}{15} = \frac{22}{15}$$

$$\frac{12}{15} - \frac{10}{15} = \frac{2}{15}$$

$$\frac{13}{45} + \frac{16}{45} = \frac{29}{45}$$

$$\frac{100}{100} - \frac{10}{100} = \frac{90}{100}$$

Questions with a **red** number will always be the same. Most of the time a video solution is provided. Try the question, then watch the video solution to see how to show work and solve the question. **Blue** numbers represent questions that are different each time. Click 'try another question' as many times as you need to. The question will be similar each time.

10. $\frac{6}{18} + \frac{4}{18} = -$

11. $\frac{12}{28} - \frac{1}{28} = -$

12.

13.

III. Addition and Subtraction of Mixed Numbers

Reminder: Try blue questions as many times as necessary to master the skill being taught.)

Addition of Mixed Numbers with Common Denominators:

Add the whole number part.

Add the numerators.

Keep the denominator.

Simplify the answer.

$$10\frac{7}{8} + 2\frac{5}{8} = 10 + 2\frac{7+5}{8} = - =$$

$$7\frac{2}{7} + 4\frac{4}{7} = -$$

$$30\frac{16}{68} + 5\frac{34}{68} = -$$

14. $2\frac{12}{32} + 7\frac{4}{32} = -$

15.

Subtraction of Mixed Numbers with Common Denominators:

*** Determine if borrowing is necessary to subtract the fraction part.

Borrowing is necessary when the minuend of the numerator is _____ the subtrahend's numerator.

Minuend
- **Subtrahend**
Difference

Borrowing **is not** necessary:

1. Subtract the whole number part.
2. Subtract the numerators.
3. Keep the denominator.
4. Simplify the answer.

$$10\frac{7}{8} - 2\frac{5}{8} =$$

$$10 - 2 \quad \frac{7-5}{8} =$$

Borrowing **is** necessary:

1. Borrow 1 from the whole number part.
2. Add the 1 to the fraction part (add it as a fraction)
3. Subtract the numerators.
4. Keep the denominator.
5. Simplify the answer.

$$16\frac{1}{4} - 8\frac{3}{4} =$$

$$\frac{+1}{4} - 8\frac{3}{4} =$$

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

$$15 - 8 \quad \frac{5-3}{4} =$$

$$6\frac{4}{9} - 3\frac{1}{9} =$$

$$30\frac{16}{68} - 5\frac{34}{68} =$$

16. $8\frac{18}{20} - 3\frac{14}{20} =$

17. $16\frac{5}{9} - 14\frac{8}{9} =$

18.